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Original Articles.

EPIDEMIC CATARRHAL JAUNDICE.*

By LEONARD GUTHRIE, M.D., F.R.C.P.

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SPORADIC cases of catarrhal jaundice in children are not uncommon, especially in the winter months, and they occur more frequently in some seasons than in others.

Hence, if one sees a few more cases than usual in cold weather, the fact may be regarded merely as a coincidence. The idea that an epidemic of catarrhal jaundice is prevalent and that the disease may be communicable by one patient to another does not readily assert itself. More commonly, catarrhal jaundice is regarded as an individual ailment, and attributed to "a chill on the liver," to gastro-duodenal catarrh, or to immoderate indulgence at table.

When, however, one meets with a number of cases of jaundice in the same district, and when two or more members of the same family are affected at or about the same time, one is bound to presume that some cause of infection common to all is at work—in other words, that one is in the presence of jaundice in an epidemic form.

Had it not been for the presence of the circumstances mentioned I should hesitate to describe the small number of cases of catarrhal

* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on November the 22nd, 1912.

jaundice—only ten in all—which I met with last winter as instances of epidemic catarrhal jaundice.

The ten cases of jaundice to which I refer all occurred during the months November, December, 1911, and January, 1912. Eight of them were in the contiguous districts of Paddington, Kilburn Park, Harrow Road, and St. John's Wood, and two were in Walthamstow.

Seven of the patients were female and three were male. Their ages varied between three and eleven years.

In three instances more than one member of the same family were affected.

In one family two sisters, in another two sisters and one brother, and in a third a brother and sister became jaundiced within a fortnight to three months of each other. Thus seven of the patients were related as brothers or sisters.

The remaining three cases were sporadic and unrelated to each other.

The jaundice was deep in all cases and associated with clay-coloured stools and bilirubinuria. The average duration was three to four weeks, but in one case it only lasted a week. The icterus was ushered in by malaise, languor, and sometimes drowsiness; the temperature was usually slightly raised (99°—100° F.). Anorexia was the rule, but in one case the appetite was said to be voracious, especially for eggs. Vomiting occurred in two cases, vomiting and diarrhœa in one, vomiting and constipation in another. In one case complaint was made of itching. Bradycardia was not observed in any. The lowest pulse-rate recorded was 66 in one case. As a rule it varied between 72 and 96. A pulse of 120–130 was noted in two cases, whilst the temperature was elevated.

The liver was enlarged in six cases, and greatly so in four. In these it extended to within an inch or an inch and a half of the umbilicus. It was smooth in all cases and not tender in any. As soon as bile appeared in the stools and disappeared from the urine the liver slowly subsided, and became normal in size in from one to two weeks. The four cases in which no hepatic enlargement was noted were seen only when convalescent.

The exact interval which elapsed between the onsets of jaundice in different members of the same family could not in all cases be determined. In one family a girl became jaundiced exactly a fortnight after her sister. In another family a girl became jaundiced on December the 4th and her brother on December the 16th, 1911. Their elder sister, aged 11 years, had had jaundice some time in the previous November. In the third family, a boy aged 6 years was

jaundiced in November, 1911, and his sister aged 3 years became so on January the 9th, 1912.

Apparently all cases began with definite malaise and probably some slight pyrexia, but none of the patients was seriously ill at any time. In this respect there was no difference between the sporadic and the other cases. The hepatic enlargement was as marked in the former as in the latter.

In one of the sporadic cases it extended to within one inch, in another to within an inch and a half of the umbilicus, and in the third it could be felt one inch below the ribs.

In two of the familial cases the liver reached to within one inch of the umbilicus, and in all the rest it was more or less enlarged.

There seems no reason to doubt that the sporadic cases were of the same nature as those which occurred in families.

No relapse occurred in any of the cases and recovery was uneventful.

Epidemics of catarrhal jaundice have been recorded in many parts of the world. For a full bibliography and complete account of such, reference may be made to an important paper, " Catarrhal Jaundice, Sporadic and Epidemic, and its Relation to Acute Yellow Atrophy of the Liver," by E. A. Cockayne, ' Quart. Journ. Med.,' Oxford, 1912, vi, p. 1.

I must express my indebtedness to this paper for many of the facts mentioned in my own.

I wish to mention specially epidemics which have occurred in our own country, and to draw attention to the fact that they have been especially prevalent here during the past three years.

Dr. Cockayne's earliest reference is to an epidemic in 1852 almost confined to children living in Birmingham, or its neighbourhood, and lasting from September to November. Montagu Champneys described one in east Sussex in 1861 which affected eighteen individuals of all classes, whose ages ranged from eight to seventeen.

In 1863 at least 300 people, both children and adults, were affected at Rotherham, and small outbreaks in all parts of the country have been especially numerous in 1894, 1901, 1910, 1911–1912.

In the ' British Medical Journal,' vol. ii, 1911, reports of small epidemics of catarrhal jaudice are given by C. H. Miles (Stantonbury, Bucks), July to August, 1911 (p. 379) ; by R. F. Campbell (Wark upon Tyne), Winter, 1909 to 1910 (p. 1695) ; Eva McCall (Cambridge), Winter, 1909 to 1910 (*ibid.*) ; W. Brown Holderness

(Windsor), October, 1911 (p. 1533); Whitaker (Eveshott, Dorset), November, 1910, May, 1911 (p. 920).

These epidemics are not mentioned by Dr. Cockayne, but he records an attack of jaundice experienced by himself, which he attributes to infection from a servant who waited upon him, and who herself suffered from catarrhal jaundice. Fowler, of Ellon (E. Aberdeenshire), witnessed an epidemic in autumn, 1911. Ralph Poignanp ('Brit. Med. Journ,' 1912, i, p. 72) met with ten cases in children, aged six to twelve, in Suffolk. Gale, of Sheffield, attended a brother and two twin sisters who were attacked by jaundice in September–October, 1910. H. Vickery ('Brit. Med. Journ.,' 1912, ii, p. 907) gives an account of several cases which occurred in scattered villages in the neighbourhood of Cheriton Fitzpaine, Devon.

In the Stantonbury epidemic children aged between four and twelve were attacked. The duration of jaundice was short; there were no relapses and no history of catarrhal gastritis. The obstruction was incomplete, for the motions contained bile. Constipation was severe. Pruritus and bradycardia were absent.

At Wark-on-Tyne fifteen cases occurred within an area of seven miles. In more than one house two children, and in one house three, were simultaneously affected. The patients were from four to twelve years of age, but one was a girl, aged 16 years. Her two younger brothers were jaundiced at the same time.

At Cambridge seven young children and two lads, aged 15 years, were attacked. In two instances two members of the same family suffered from jaundice.

At Windsor seven cases occurred in a girls' school after the girls had taken a walk on a cold, wet day. Malaise and vomiting followed by jaundice were the chief symptoms. In two cases the liver was enlarged, and in one it was greatly so.

At Eveshott (Dorset) fourteen cases of jaundice occurred in three villages between November, 1910, and May, 1911. The patients' ages were from six to thirty years. The worst cases were in adults, who suffered from severe epigastric pain and vomiting. The liver was slightly enlarged. The duration of jaundice was a week to ten days.

Epidemic Infectious Jaundice and Epidemic Catarrhal Jaundice.

A distinction should be drawn between epidemic infectious jaundice, described by Weil in 1886, and epidemic catarrhal jaundice.

Weil's disease was also described by Lancereaux in 1882 as "Ictère grave essentiel," by Landouzy in 1883 as "Fièvre bilieuse" or "Typhus hépatique bénin," and by Matthieu in 1886 as "Ictère fébrile à rechutes."

Except in degree of severity the symptoms of Weil's disease do not differ markedly from those of epidemic catarrhal jaundice. The most severe cases of the latter may be very like the milder forms of Weil's disease.

Icterus in Weil's disease is associated with urticaria, petechiæ, hæmorrhages from the nose, stomach and elsewhere, fever, enlargement of the spleen, nausea, vomiting, diarrhœa and albuminuria. Nervous symptoms exactly like those of acute yellow atrophy may end the scene. Relapses are common, and in some cases a remarkable urinary crisis attended by polyuria and excessive excretion of urea takes place on the seventh or ninth day (Kelsch, 'Rev. de Méd.,' Paris, 1886, vi, p. 657).

The mortality varies from 10 to 60 per cent. Post mortem, the changes are those of acute yellow atrophy of the liver, or extreme fatty degeneration with diffuse hepatitis and leucocytic infiltration near the portal spaces.

Ætiologically, Weil's disease has been traced to contaminated food or water. In some cases *Bacillus proteus fluorescens* has been found in the urine and internal organs of the patients. Jaeger also found it in ducks which were dying of jaundice on the same water which had been drunk by human sufferers from the same disease. The jaundice is at first acholuric or hæmolytic like that experimentally produced by toluylendiamine. Later, bile appears in the urine and disappears from the stools.

In this country *epidemics of catarrhal jaundice* have always been mild in character. No deaths have occurred, but in other countries fatalities have occasionally been recorded. One hundred and sixty-one deaths occurred in a total of 22,569 cases amongst the Federal troops of America. Kissel, in the Moscow epidemic, found six fatal cases out of ninety-six in children aged between two and four years. The liver was enlarged in the first four cases and the spleen in the first two.

The liver showed proliferation of the epithelium of the hepatic ducts and proliferation of the bile-ducts themselves at the periphery of the liver-lobules. The liver-cells in the centre of the lobules were necrosed and all showed fatty degeneration.

In all the fatal cases there were severe nervous symptoms, loss of consciousness, great restlessness, universal twitchings of muscles, and

disturbance of heart's action and respiration. In the epidemics in Saxony, 9 out of 313 cases died. Seven of the fatal cases were aged from four months to twelve years, and two were sixty and sixty-eight years old respectively. In one of the fatal cases the symptoms and state of the liver resembled those of acute yellow atrophy.

From the description given by Cockayne of outbreaks abroad, it is obviously very difficult to distinguish between epidemics of infectious jaundice and those of epidemic catarrhal jaundice.

The diseases resemble each other in symptoms and morbid anatomy; fatal cases of either are hardly to be distinguished in these respects from acute yellow atrophy or from fatal cases of sporadic jaundice (so-called).

Cockayne cites many instances in which acute yellow atrophy of the liver has affected more than one member of families, and has occurred with such frequency, especially among pregnant woman, as to suggest the prevalence of a specific cause.

In the case of Weil's disease the infection is probably due to the ingestion of contaminated water or food, but may be due to some biting insect.

It is essentially a filth disease, and is chiefly confined to the districts round the Mediterranean Sea, whereas epidemic catarrhal jaundice occurs all over the world.

In the case of *epidemic catarrhal jaundice* and sporadic jaundice the cause is unknown, but there is every reason for supposing them to be due to some common organisms widely spread and capable of giving rise to an infective hepatitis.

Cockayne believes the infection to be air-borne, and not, as in Weil's disease, conveyed by food or water.

It appears to be most infectious at the time of invasion and not in later stages.

Acute yellow atrophy Cockayne regards as due in the great majority of instances to the same unknown organism acting upon a liver weakened by some temporary strain such as pregnancy, or having some inherent weakness. This explanation also covers the cases of post-anæsthetic fatalities with jaundice in which the symptoms closely resemble those of acute yellow atrophy and the pathological changes are of the same nature, although fatty degeneration is more prominent than necrosis of hepatic cells.

The term "catarrhal jaundice" if implying that it is simply due to gastro-duodenal catarrh, the result of chill or over-eating, is perhaps misleading.

The assumption that the jaundice is always the result of mecha-

nical obstruction of the ductus communis by a plug of inspissated mucus may be incorrect.

Blockage of the main duct, as, for instance, by a gall-stone, does not produce such great enlargement of the liver as was present in some of my own series of cases.

It seems more probable that epidemic jaundice, whether in the severe form known as Weil's disease, or in its milder form called catarrhal jaundice, epidemic or sporadic, is an example of acute general hepatitis produced by organisms or toxins which may not be the same in all cases. Blockage of the main duct may be secondary to hepatitis, descending and not ascending the duct.

C. H. Miles attributed the Stantonbury epidemic, which has been mentioned, either to pneumococcal infection or to invasion by some oral germ. He was able to exclude ptomaine poisoning as the cause, and the milk, water supply and drains in the neighbourhood were above suspicion.

The influenza bacillus has been blamed by some (Meinert, Brünler and Bonome), and has actually been found by the last-named in the blood, spleen, and liver of two children in whom acute yellow atrophy of the liver, together with *B. coli*, were found after death.

But, as Cockayne remarks, there seem to be no good grounds for regarding catarrhal jaundice as a form of influenza.

Cockayne refers to the possible relationship or analogy between mumps and catarrhal jaundice. The metastases which occur in mumps, and the fact that other glands such as the testis and pancreas may be affected, with or without involvement of the parotid, suggest that the infection reaches the parotid or other glands by the blood-stream. In mumps it is possible that the blockage of Steno's duct may be secondary to inflammation of the parotid itself, and in jaundice the obstruction of the bile-duct may be secondary to hepatitis.

I am indebted to Dr. F. E. Batten for an interesting observation on the association between mumps and catarrhal jaundice in the wards of the Hospital for Sick Children, Great Ormond Street. A nurse in one of the wards developed mumps on December the 1st, 1911. Between December the 7th and the 10th six children in her ward also contracted mumps. On January the 2nd, 1912, another nurse employed in the same ward became feverish, vomited, and developed jaundice on January the 8th, which lasted till January the 17th, but she did not contract mumps. A third nurse developed mumps on December the 10th, 1911, and also suffered from very severe abdominal pain and vomiting, which Dr. Batten attributed to

pancreatitis. He is inclined to regard pancreatitis as the connecting link between mumps and jaundice in these cases.

I have already alluded to the Eveshott epidemic of catarrhal jaundice, in which severe epigastric pain and vomiting were prominent symptoms in adults, and were, perhaps, due to pancreatitis.

Further investigations are needed as to the prevalence of mumps and epidemic catarrhal jaundice at the same time.

The connection does not seem obvious, yet it is possible that mumps, acute pancreatitis and hepatitis (catarrhal jaundice) may sometimes be allotropic examples of one and the same affection.

The occasional association of jaundice with specific fevers, such as intermittent, remittent, relapsing, typhus, enteric fever, diphtheria, and scarlatina, has been observed.

Three cases of pancreatitis with jaundice in scarlatina, and one in diphtheria, have been recorded in the 'Lancet,' 1912, ii, p. 1295, by W. L. Goldie, who refers to another case described by Sidney Phillips of jaundice in a patient suffering from scarlet fever, who also had parotitis and abdominal symptoms suggestive of pancreatitis. The parotitis occurring in specific fevers is, however, probably not due to the specific infection of mumps. Whether jaundice in such cases is toxæmic or due to a specific hepatitis, or dependent on obstruction to the hepatic duct by swelling of the head of the pancreas, is undecided.

The jaundice in infectious fevers is usually described under the heading "toxæmic," but Roberts ('Practice of Medicine') and Sidney Phillips both incline to the view that it results from obstruction.

The chief points to which attention is drawn in this paper are:

(1) That mild epidemics of so-called catarrhal jaundice have been specially prevalent in this country during the past three years.

(2) That although mild in character hitherto, it is possible that at any time they might become more formidable.

(3) That catarrhal jaundice must be regarded as due to an acute hepatitis resembling mumps in some particulars.

(4) The prognosis in any given case of jaundice in children, whether apparently sporadic or occurring in the course of epidemics, must be guarded. For we have no means of knowing whether it will run a mild and normal course, or terminate as a case of acute yellow atrophy of the liver.

Finally, the question asked by the mother of one of my patients, "Is jaundice catching?" can no longer be answered in the negative, as I think it would have been some years ago.

THE INCLUSION BODIES IN SCARLET FEVER.

By John Granger, M.B., Ch.B.Glasg.,
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Every medical officer in a fever hospital knows how difficult it is to arrive at a diagnosis in certain cases certified to be suffering from scarlet fever. Many patients are admitted with a very indefinite history, a faint rash, little or nothing wrong with the throat, and one has to adopt a "wait and see" policy before a definite opinion can be expressed. Should it be possible, therefore, by the aid of the inclusion bodies first described by Döhle, of the Pathological Institute of Kiel, to make a definite diagnosis of scarlet fever within the first four days of the illness, one might expect the number of so-called relapses and second attacks of scarlet fever to be greatly reduced. So far no investigations on these bodies have appeared in the medical literature of this country. Considerable attention, however, has been devoted to the subject in Germany, and even more so in the United States, where the City Health Department of Boston has recently announced that it is prepared to examine blood-films from suspected cases of scarlet fever and report on the result.

Before relating our own investigations on this subject a review of previous work will be given. The inclusion bodies were first described by Döhle in an article published in November, 1911. In the examination of blood-films from thirty patients suffering from scarlet fever, he found almost invariably some bodies in the polymorphonuclear leucocytes. In a few cases they were extra-cellular. They were most likely to be found in the blood shortly after the appearance of the eruption. He examined the blood in numerous other cases, but in three only, viz. one case of pneumonia and two cases of cancer, could he find similar bodies.

Subsequently Kretchmer, assistant in the Strassburg Children's Clinique, published the results of an examination of blood-films taken from thirty cases of scarlet fever. In fifteen cases, in which daily examinations were made, the bodies disappeared from the blood from the fifth to the tenth day. In one case they were present on the fifteenth day and in another as late as the twenty-eighth day. He found the bodies present in one case before the eruption appeared.

He also examined the blood of seventy controls, including persons in normal health, cases of diphtheria, measles, sepsis, serum sickness, and other acute and chronic affections. The bodies were found in one case of pneumonia with cervical abscess, two cases of diphtheria, and in one of nine cases of tuberculosis. They were absent in six cases of cancer and six of syphilis.

Nicoll and Williams, of New York, in an examination of fifty-one cases of scarlet fever found the bodies in forty-five. In the six negative cases the patients had been ill for eight days or longer. Of twenty-five controls only three showed the bodies, viz. one case of pneumonia with lues, one of erysipelas, and one of measles with broncho-pneumonia. The other cases, including normal persons, measles, diphtheria and serum rashes were negative. The authors concluded that an examination of the blood in the first week of illness would differentiate scarlet fever from measles, German measles, and probably toxic rashes; but they could not say whether such an examination would eliminate rashes due to sepsis, influenza, and tonsillitis from the diagnosis.

In a later paper Nicoll reported his findings in 115 cases of scarlet fever and 80 controls. In fresh cases of scarlet fever the bodies were found in almost all the polymorphs. He failed to find the bodies in sixteen cases, viz. one case of fulminating scarlet fever, one case of doubtful diagnosis, and fourteen who had been ill for over seven days. His findings were negative in a large number of controls, *e. g.* normal blood, diphtheria, syphilis, whooping-cough, measles, German measles, follicular tonsillitis, dermatitis exfoliativa, serum rashes and intestinal toxæmias. He found the bodies, however, in eight cases of erysipelas, one of empyema and four of typhus fever.

J. A. Kolmer, of Philadelphia, examined 200 cases of scarlet fever, in 119 of which he found the inclusion bodies. The bodies were present in 100 per cent. of cases of one and two days' duration. Thereafter the percentage showing them diminished to 25 on the eighth day. After that date they were seldom found. The inclusion bodies were also found in a large percentage of cases of diphtheria during the first four days. Among his control cases, seven out of eleven cases of erysipelas and two out of three cases of lobar pneumonia were positive; twelve cases of measles and two of German measles were all negative.

J. Ahmed, in observations made at the Virchow Hospital in Berlin, found the inclusion bodies present in scarlet fever, acute tuberculosis, typhoid, measles, German measles and erysipelas. He

thought the bodies were fragments of nuclei and denied their diagnostic value.

Johanna Schwenke, of Breslau, examined the blood of eighty-one acute affections, including eleven cases of scarlet fever. All the cases of scarlet fever examined in the first week of illness showed the inclusion bodies. The number of bodies varied, the milder cases showing fewer and smaller bodies than were seen in the more severe cases. The number of bodies diminished from day to day, and after the seventh day they were found only in a few cases. Fourteen cases of lobar pneumonia in children from two to ten years old were examined and all showed the presence of inclusion bodies. In twelve of these 50 per cent. and in the other two 35 per cent. of the polymorphs contained the bodies, which were indistinguishable from those found in scarlet fever.

In undertaking this research at the instigation of Dr. J. D. Rolleston, to whom we are indebted for various suggestions in the preparation of this paper, we set out with the following objects :

(1) To find out if the inclusion bodies were present in all cases of scarlet fever.

(2) To determine the date of their disappearance.

(3) To see if they were present in diseases which might be mistaken for scarlet fever, *e. g.* diphtheria, measles, tonsillitis, and rashes due to sepsis, enemata, drugs and intestinal intoxications.

(4) To estimate their diagnostic value.

For this purpose we examined blood-films from 191 cases of scarlet fever, 37 cases of measles, 27 cases of diphtheria, 24 cases of tonsillitis, 20 cases of whooping-cough, 20 cases of serum rash, 7 cases of urticaria, 4 cases of pneumonia, 3 cases of erysipelas, and 10 normal patients.

Several methods of staining can be used. We adopted Manson's stain at first, but later found we could get better results, and with less trouble, by staining with carbol methylene-blue.

(1) *Manson's stain.*—The slides are fixed in alcohol and formalin, washed in water, and stained for twenty-five seconds with Manson's stain. (Mix 5 per cent. methylene-blue in a 2 per cent. boiling borax solution, allow to cool and filter.) The red corpuscles are stained greenish-blue, the nuclei of the polymorphs are stained deep blue, the protoplasm is very faintly stained, and the inclusion bodies are stained less deeply than the nucleus, but more deeply than the protoplasm.

(2) *Carbol methylene-blue.*—The slides are fixed by passing three or four times through the flame after having been dried in the air.

They are then dipped in water. The extra water is removed by one or two vigorous shakes, and they are then stained by carbol methylene-blue for thirty seconds (methylene-blue 1·5 grm., absolute alcohol 10 c.c., 5 per cent. solution of carbolic in water 100 c.c.). The red corpuscles are not stained. The appearance of the polymorphs and bodies is the same as in Manson's stain.

We found that the inclusion bodies presented the appearance described by Döhle. They vary in size, from a micrococcus to a large bacillus, and may be coccus-shaped, ovoid, pyriform, or curved. They are quite distinct from the nucleus, and are situated most frequently towards the periphery of the cell, but occasionally are found between the limbs of the nucleus. They are present in the polymorphonuclear cells only. Occasionally little particles staining a deep blue colour are found extra-cellular, but they do not occur in every slide, and are probably blood-platelets. They were not seen in any of the slides stained by the carbol methylene-blue method, and although Döhle mentions them in his original paper, none of the other observers have remarked on them. The number of cells containing the bodies and the number of bodies present in each cell vary, and bear no relation to the severity of the illness, though they do seem to diminish in number with the duration of the attack. There is no difference in the staining reaction or appearance of the bodies found in scarlet fever, measles, diphtheria, and other diseases.

Table I.

Day of illness.	Number examined.	Number positive.	Percentage positive.
1st	2	2	100
2nd	16	14	87·5
3rd	25	24	96
4th	14	13	92
5th	18	15	83·5
6th	12	9	75
7th	12	8	66·6
8th	12	3	25
9th	12	1	8·3
10th	12	0	0
11th to 30th	20	3	15·0

Table I gives the results of our examination of 155 cases of scarlet fever. Two cases were examined on the first day of illness before

the rash had appeared, and were both positive. Sixteen were examined during the second day of illness ; of these fourteen were positive and two negative. One of the latter was a case of toxic scarlet fever which died a few hours after admission. The other case was sent to a scarlet fever ward, and had a "relapse" on the thirty-seventh day. Twenty-five were examined on the third day of illness, of which twenty-four were positive and one negative. The latter had a "relapse" on the thirty-ninth day. Of this series of 155 cases, one which gave a positive result on admission had a "relapse." He had a very bad throat and foul mouth when admitted. These three cases gave positive results on the day of "relapse."

In all this series except the two "relapses" the initial diagnosis was confirmed by typical peeling. Thus during the first three days of illness every case of scarlet fever except the toxic case and the two which relapsed showed the inclusion bodies.

Of the cases which had been ill four days before a blood examination was made, one was negative although three films were examined. From the fourth day to the ninth day the bodies were present with lessening frequency, and on the tenth all the cases examined were negative.

From the eleventh to the thirtieth day of illness twenty cases were examined, but in three only were the bodies found, viz. on the sixteenth, twenty-first and twenty-eighth days.

In order to see whether the bodies were present in the polymorphs of patients suffering from secondary cervical adenitis or nephritis, another series of seventeen patients were examined from whose blood we were sure, by a previous examination, that the inclusion bodies were absent before the onset of the complication.

Twelve patients had cervical adenitis with a rise of temperature and malaise, seven of whom were positive. Five who had nephritis were negative, although three films taken on alternate days were examined.

To determine whether the severity of the attack had any relation to the number of inclusion bodies present and to the number of polymorphs containing inclusion bodies, a third series of twelve cases of scarlet fever were examined during the first three days of illness : seven were mild, three moderate and two severe. In each film 100 polymorphs were counted. The number of these containing bodies and the total number of bodies present were noted. The highest and the lowest counts in each class are given in Table II, which shows that no such relation can be traced.

TABLE II.—*Examination of* 100 *Polymorphs, showing* (*a*) *Number containing Inclusion Bodies;* (*b*) *Number of Inclusion Bodies Present.*

Type of disease.	(*a*) Number containing inclusion bodies.		(*b*) Number of inclusion bodies present.	
	Highest number.	Lowest number.	Highest number.	Lowest number.
Mild	92	25	130	39
Medium	87	40	144	50
Severe	78	42	128	52

A fourth series of seven cases of scarlet fever, all of a moderate type, were followed from the day of admission till the bodies disappeared. The number of bodies present in 100 polymorphs is given in Table III.

TABLE III.

Day of disease.	Case 1.	Case 2.	Case 3.	Case 4.	Case 5.	Case 6.	Case 7.
1st	—	—	—	—	—	—	—
2nd	—	120	—	95	62	—	—
3rd	48	95	—	84	58	87	39
4th	84	78	96	57	56	63	76
5th	79	86	130	28	49	52	48
6th	30	42	104	0	23	35	21
7th	0	45	120	0	0	17	15
8th	0	38	65	0	0	0	0
9th	0	0	0	0	0	0	0

It will be seen from the above table that the only common feature is that the bodies tend to diminish in numbers after the fourth or fifth day till they entirely disappear.

Measles.—Our results differ from those of Kolmer and Nicoll and Williams, and accord with those of Ahmed, in that a large number of our cases of measles showed inclusion bodies.

Forty cases of measles were examined, the results being given in Table IV.

The summer and autumn were very wet and inclement, and many of the children had severe broncho-pneumonia, but even in those free from bad bronchitis on admission, quite a large number gave positive results.

TABLE IV.

Day of disease.	Number examined.	Number positive.
2nd	4	2
3rd	6	3
4th	12	5
5th	9	4
6th	6	2
7th	2	0
8th	1	1
9th	0	0

Diphtheria.—Nicoll and Williams did not find the inclusion bodies present in diphtheria, but Kolmer states that quite a large percentage of his cases up till the fourth day of illness showed them. Ahmed also found the bodies present in diphtheria.

Our results are shown in Table V. Twenty-seven cases were examined, in which the clinical diagnosis of diphtheria was confirmed bacteriologically.

TABLE V.

Day of disease.	Number examined.	Number positive.
1st	3	2
2nd	4	2
3rd	5	4
4th	10	7
7th	1	0
(?)	4	2

Tonsillitis.—Films from twenty-four cases were examined; these included follicular tonsillitis, parenchymatous tonsillitis, peritonsillar abscess, and Vincent's angina. Of these fourteen gave a positive result.

Toxic rashes.—We examined blood-films from twenty cases of serum sickness and fifteen cases of urticaria due to other causes, but in none of these were able to find the inclusion bodies.

Other cases examined included three cases of pneumonia, of which two were positive, four cases of erysipelas, all positive, and twenty cases of whooping-cough, of which one only was positive. This latter had a very purulent rhinorrhœa. Ten persons in normal health were examined, and were all negative.

Unfortunately, we had no opportunity of examining blood from patients suffering from German measles.

The question as to the nature of the inclusion bodies has not yet been settled. Döhle, in his second paper, regards them as the fragments of a spirochæte, which has been taken up by the polymorphs and partly disintegrated. He reproduces a micro-photograph of a blood-film, in one of the polymorphs of which is shown an inclusion body with a somewhat sinuous appearance, which he has called the spirochæte of scarlet fever. Schwenke thinks that they may be the expression of a reaction of the hæmo-poietic system to bacterial poisons analogous to leucocytosis. A more probable view seems to be that of Kolmer, who regards them as being a product of degenerative change in the cytoplasm of the cell.

Conclusions.—(1) Except in the extremely fatal toxic type of scarlet fever, Döhle's inclusion bodies will probably be found in every true case of scarlet fever during the first four days of illness. The absence of the bodies practically excludes scarlet fever.

(2) The bodies are present in almost every case up to the fourth day, after which they appear with lessening frequency and are absent in most cases after the eighth day, though in some few cases they may be found as late as the third or fourth week.

(3) The bodies are present in quite a large proportion of cases of diphtheria, measles and tonsillitis. Therefore the presence or absence of the bodies is of no use in making a differential diagnosis between these diseases and scarlet fever.

(4) The bodies are found in most diseases caused by ordinary pyogenic organisms, especially if streptococci are present.

(5) The bodies are absent in toxic rashes.

(6) It is impossible to diagnose scarlet fever from film examination alone.

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(3) Kolmer, J. A.—'Am. Journ. Dis. Child.,' 1912, iv, p. 1.
(4) Kretchmer, M.—'Berl. klin. Woch.,' 1912, xlix, p. 499.
(5) Nicoll, M., jun.—'Arch. of Ped.,' 1912, xxix, p. 416.
(6) Nicoll, M., jun., and Williams, A. W.—*Ibid.*, p. 350.
(7) Schwenke, J.—'Jahrb. für Kinderheilk.,' 1912, lxxvi, p. 436.

HEDONAL ANÆSTHESIA: ITS USE IN CHILDREN.*

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I propose to place before you to-night the impressions I have formed from the administration of hedonal by the infusion method to children.

Mr. Page was kind enough to allow me to see some of his administrations in the case of adults at St. Thomas's Hospital last February, and it then struck me as desirable to give the method a trial in the case of children.

Of the routine anæsthetics, chloroform is by no means ideal, and in certain states may act as a deadly poison. Slight degrees of delayed chloroform poisoning are of common occurrence and frequently pass unnoticed. In the year 1911 there were six fatal cases of acetonæmia after anæsthetics in the Hospital for Sick Children. Ether administered by the open method with a preliminary injection of morphia and atropine is excellent for most conditions in the surgery of children, but in certain operations, *e. g.* on the brain and chest, it is inadmissible, and chloroform has to be employed.

I thought, perhaps, hedonal might fill a want in anæsthesia, and determined to give it a trial. The number of my cases—seventy—is comparatively small to judge the effects of any anæsthetic, but it has been sufficient to convince myself of certain disadvantages and advantages of hedonal anæsthesia as applied to children. The first fifty cases were for all kinds of conditions, but in the last twenty only those cases were selected for which hedonal was thought to be particularly suitable.

Method of administration.—A −75 solution of hedonal was used according to Mr. Page's technique. As a rule the internal saphenous vein was selected. It is by far the most convenient in children. It is constant in position, out of the way of the operator, and obtrudes itself less on the patient. The vein was exposed under ½ per cent. novocaine infiltration, and in very few instances did the child resist or make any complaint. The cannula has, of course, to be of appropriate size. The youngest patient anæsthetised by this method was nine days old, and in this case I had but little difficulty in inserting the cannula into the median basilic vein. The insertion of the cannula is not always an easy matter, and it is one of the disad-

* A paper read before the Medical Society of London on October the 28th, 1912.

vantages of the method that practically an operation has to be performed to find the vein before the main interference. In only one case were the veins found to be too small for the purpose. In two other cases I failed to induce anæsthesia; in one, clotting occurred in the cannula before anæsthesia was complete, and open ether had to be given; in the other too small a cannula was used for a large child, with the result that anæsthesia was never properly established.

Induction took on an average seven minutes, and the amount of solution varied from 30 c.c. in a child of nine days to 680 c.c. in a boy of seven years. It varied within fairly wide limits, the variation being due to the size of the cannula and of the vein. A small quantity run in quickly induced anæsthesia sooner than a much larger quantity run in slowly. After the injection of a few c.c. the child appears to drop off to sleep. There is very rarely any excitement. The respirations are quiet. The colour is abnormally pink. The pupil is contracted. The corneal reflex is abolished very early, and is quite useless for estimating the degree of anæsthesia. I have found the only satisfactory way of estimating the depth of anæsthesia is by slight cutaneous stimuli, such as a pin-prick. It is not at all infrequent for the patient to make movements in reaction to the stimulus of the skin incision. During the subsequent manipulations even the peritoneum can be freely handled without calling forth any reaction, but if the skin is at any time stimulated slight movements occur. The uncertainty as to whether complete anæsthesia has been reached is one of the great disadvantages. In children I believe there is a very small margin between the complete abolition of the skin reflex and the danger sign of respiratory depression. One of the most striking features is that even if the skin reflex is present, muscular relaxation is considerable. The colour of the patient—provided there is no mechanical obstruction to respiration, such as the falling back of the tongue—is always remarkably good. In one case in which stoppage of respiration had occurred the colour was pink for some time after respiration had stopped, and no warning such as cyanosis was given. When once anæsthesia has been established very little hedonal, if any, is required to be given to maintain it. In nine cases no further anæsthetic at all was necessary for operations lasting eighteen to fifty minutes. In these cases, however, slight movements occurred on inserting the skin sutures—not, as a rule, sufficient to embarrass the operator.

In my experience the colour has not been particularly useful in warning one of danger. Gradual slowing of the respiration and

deep sighing with apnœic pauses are signs that the drug has been pushed too far. In no case was there any trouble as regards the vein or the wound.

In this series I have to report one fatality. I gave a full account of it at the time before the Anæsthetic Section of the Royal Society of Medicine. It was the sixth case of the series.

The patient was a girl, aged 8 years, with tuberculous glands of the neck. The operation was just being completed, skin stitches were being put in when the child was noticed to have stopped breathing. The colour was good and the air-passages free.

All efforts to resuscitate by artificial respiration failed. 300 c.c. of solution had been used to induce anæsthesia and 200 had been given during the progress of the operation, which had lasted thirty minutes. A post-mortem examination by an independent pathologist revealed the condition of status lymphaticus. There was wide-spread and marked hypertrophy of all the lymphoid tissue of the body, and the heart was fatty. The condition of status lymphaticus is a curious one, concerning which but little is known, except the liability to sudden death, especially when under the influence of anæsthetics. In the light of subsequent experience I am inclined to believe that more of the anæsthetic was administered after anæsthesia had been induced than was absolutely necessary—not sufficient, however, to have given rise to any trouble in a healthy child. The post-mortem conditions were exactly those that are found in unexplained chloroform deaths, and I believe that with chloroform the unhappy result might have been the same. In only one other case had I any anxiety, and that was a similar type of child. Laparotomy was being performed for abdominal tuberculosis : 270 c.c. had been given and operation had just been begun when the respiration ceased. Slight cyanosis was observed. After artificial respiration had been carried on for a few minutes breathing was re-established and the operation was satisfactorily concluded without further trouble.

I have heard of other fatalities from the use of hedonal anæsthesia. Federoff,* the originator of the method, reports temporary cessation of respiration in 8 out of 530 cases.

Advantages.—For the patient hedonal is one of the most pleasant anæsthetics that we have. Its administration is practically free from discomfort. Children show alarm and pain in a more obvious manner than adults, and it was noticeable that the preliminaries to an operation under hedonal were always quieter than under any other anæs-

* Quoted by C. M. Page, 'Proc. Roy. Soc. Med.,' 1912, v, Section of Anæsthetics, p. 85.

thetic. One patient, after an experience of spinal, inhalation, and intra-venous anæsthesia, begged, when an anæsthetic was required on a fourth occasion, that intra-venous anæsthesia should be employed.

For the operator the conditions are all that could be desired. Excellent muscular relaxation is obtained. In operations about the head it is of advantage not to be hampered by the armamentarium of the anæsthetist. I have used the method on five occasions for operations on the brain and in each case the anæsthesia was most satisfactory. In the acute empyemas of children an inflammatory condition of the lungs is present to a greater or less extent, and an inhalation anæsthetic is practically always accompanied by coughing and straining. With hedonal the respiration is quiet and even throughout, and no explosive coughing occurs even when the chest is opened.

The after-results of the anæsthetic are excellent. The drug is excreted very slowly, and a quiet sleep for five to seven hours is usually obtained. On recovery the child is perfectly fit and ready to take food, but inclined to sleep for the next twenty-four hours. The absence of vomiting is a noticeable feature—five children of the series vomited and four of these only vomited once. The comparison of a ward on the day following operations after hedonal with one after chloroform or ether was most striking, and the testimony of the nursing staff was all in favour of hedonal anæsthesia.

The factors causing acetonuria after anæsthetics are at present rather the subject of considerable doubt, but the point is important in connection with delayed anæsthetic poisoning. The urines of these cases were examined before and after operation. The figures are too small to be of much value, but less than half showed any increase in acetone, and in 9 per cent. of the cases acetone was present before operation and absent afterwards. None of the cases gave any clinical signs of the presence of acetone. One case developed chorea fourteen days after operation, but there was no reason to suppose that the anæsthetic determined this. In fact no troubles that could be attributed to the anæsthetic occurred during the post-operative course.

The disadvantages of the method are by no means few. From my experience I do not think that hedonal can be called a safe anæsthetic. In its immediate effect it is probably as dangerous as chloroform and much more dangerous than open ether. Its late effects, however, compare very favourably with any other anæsthetic.

The estimation of the depth of anæsthesia is difficult to determine

exactly. The pupil and conjunctival reflexes are quite useless, and I have found that practically the only way one can determine when the patient is sufficiently under for the operation to be begun is by noting the reaction to skin stimuli. If the skin reflex is quite absent no more anæsthetic is necessary for some time and very little more will cause respiratory depression.

The slowness with which hedonal is excreted demands very careful administration. If by any unhappy accident an overdose were to be given resuscitation is almost a forlorn hope, because of the amount of the drug in the circulation and the slowness of its excretion.

As a routine anæsthetic the preliminaries of finding the vein and inserting the cannula may be rather tedious, and certainly take longer than induction with the open methods. There is also some uncertainty as regards the size of the vein, for though in a baby of 9 days I had no difficulty in inserting the cannula, in a child of 13 months both the saphenous and basilic veins were too small for the purpose.

The use of hedonal is contra-indicated in short operations, because of the slow recovery from the effects of the anæsthetic. It is contra-indicated in the ordinary hospital list of operations because of the extra time consumed and the excellent results that attend anæsthesia by open ether with the preliminary injection of morphia and atropine. For acute abdominal conditions in children, spinal anæsthesia with Tyrrell Gray's solution of stovaine-dextrin gives by far the best results. The indications for hedonal are therefore narrowed down to very few. It is, I think, the best anæsthetic for brain operations. Ether is here inadmissible because of the increased hæmorrhage, and prolonged chloroform anæsthesia should be avoided whenever possible in children. With hedonal the administration is convenient, and the prolonged sleep afterwards greatly reduces the shock of the operation. Moreover, a surprisingly small amount of anæsthetic is required.

The only experience I have had with it in chest surgery has been for empyemata and the results were excellent. I would not advocate its routine use in empyemata, because, except in infants, a rib can be resected easily and without distress and with complete safety to the patient with local infiltration anæsthesia. Hedonal appears to have no irritating effect on the lungs, and therefore it could be used with advantage in any case where the lung condition contra-indicated an inhalation anæsthetic.

Finally, hedonal should be considered if a patient has already

had experience of a general anæsthetic and dreads another operation on that account—a condition by no means infrequent in the case of older children. In conclusion, I must express my indebtedness to those members of the surgical staff at the Children's Hospital, Great Ormond Street, especially to Mr. Corner and Mr. Waugh, who allowed me to make use of the cases admitted under their care.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, November the 22nd, 1912.

Mr. A. H. Tubby, *President, in the Chair.*

Congenital Syphilitic Infant treated by Intra-venous Injection of Neo-salvarsan.—Dr. J. L. Bunch showed a girl, aged 2 years, who on admission to hospital was suffering from an offensive muco-purulent discharge from the nostrils, malnutrition, and well-marked condylomata round the anus. The Wassermann reaction had been markedly positive, and on October the 30th she was given a dose of 0·45 grm. neo-salvarsan intravenously into the median basilic vein. No ill-effects of any kind followed the injection. The child left the hospital two days afterwards with the syphilitic symptoms greatly improved, and a week afterwards the condylomata and muco-purulent rhinitis had disappeared.

On November the 13th a second injection of 0·45 grm. neo-salvarsan was given, this time intra-muscularly into the right buttock. The child had steadily improved in general health and had put on weight. The Wassermann reaction was negative.

Partial Hemiatrophy of the Face and Tongue.—Dr. Walter Carr showed a boy, aged 9 years. About a year ago the patient's mother first noticed a whitish spot, like a scar, over the lower border of the lower jaw on the right side. Since then a gradual wasting of the lower part of the right side of the face had been observed. No cause could be assigned for the onset of the atrophy; there was no history of illness or of trauma. When shown there was marked atrophy of the skin, subcutaneous tissues and muscles over and below the right half of the lower jaw, from the angle to the symphysis. The bone itself also appeared to be somewhat wasted, but an X ray examination did not show any definite atrophy. The skin showed slight, rather patchy atrophic changes; its sensibility was unaltered, except perhaps for a very slight diminution to touch. The muscles contracted normally; those of mastication were not affected. There was marked atrophy also of the right half of the tongue, but no affection of movement, ordinary sensibility, or taste. In all other respects, except for slight psoriasis, the boy seemed quite normal, both physically and mentally.

Spina Bifida (Meningo-myelocele) treated by Operation.—Mr. Lionel E. C. Norbury showed a girl, aged 5 weeks, who was admitted with an ulcerating sacral spina bifida, the size of a large tangerine orange. There was very little true skin over the swelling, the covering consisting chiefly of a thin membrane, discharging in several places. There was a slight degree of hydrocephalus; talipes calcaneus bilateral; no other paralysis. After the ulcers had healed an operation was performed under chloroform anæsthesia of excision of spina bifida by elliptical incisions. A rubber tube was stitched into the rectum to avoid soiling of the wound, but did not remain in position very long. The child was kept in a slanting position with the head low, until the wounds had healed. There was never any leakage of cerebro-spinal fluid during convalescence.

The child was sixteen months old when shown. She was intelligent. The anterior fontanelle was almost closed. There was no bulging in the region of the wound. The condition of talipes calcanous remained and was being treated by massage and passive movement by the mother.

Ununited Fracture of the Neck of the Femur.—Mr. H. A. T. Fairbank showed a girl, aged 15 years, who gave a history of having been run over by a van in October, 1904. The diagnosis was said to have been "comminuted fracture of femur near the neck." The left leg had always been short since the accident, which necessitated her lying in bed many weeks. The shortness was said to be increasing. Pain had been present at times only, but had been worse lately. The pain was severe at night; it waked her; it was particularly noticeable on rising after sitting for long, but it was not caused by walking except in wet weather. The left leg was wasted, and held in an everted position. Flexion of the hip was possible to a right angle only; abduction was practically abolished, while internal rotation was very limited; extension and adduction were only slightly limited. The trochanter was raised, prominent and thickened anteriorly. Real shortening, 2 in. A skiagram showed an ununited fracture of the neck of the femur and coxa vara.

The case was shown in order to elicit opinions as to the best treatment. It was proposed to excise the head of the femur, and retain the limb in hyper-abduction for several weeks.

Œsophageal Stricture.—Dr. Eric Pritchard and Mr. Douglas Drew showed a boy, aged 2 years, delicate from birth and subject to vomiting, who was admitted owing to inability to swallow solid food. He had been fed on liquid foods until recently, when inability to swallow solids was discovered. X-ray photograph showed a dilated œsophagus between the level of the supra-sternal notch and xiphisternum and a stenosed portion below.

Multiple Exostoses with Wasting of the Muscles of Upper Arm.—Dr. Eric Pritchard also showed a boy, aged 9 years. The first exostosis was noticed at the age of two years on the inner side of the upper end of the tibia. From that time until the present new exostoses had continued to develop, and were exceedingly numerous, especially in the ribs. For the most part they were symmetrical. There was considerable wasting of the muscles of the upper arm, but muscular power was good.

Osteoma of the Forearm causing considerable Deformity.—Mr. Sidney Boyd showed a boy, aged 9 years. The tumour of the forearm

appeared to be growing from the ulna, and had caused considerable bowing of the radius. It was first noticed at the age of five years. The head of the radius was dislocated outwards. There was imperfect ossification of the lower end of the ulna, and a small tumour at the upper end of the same bone. He had also several osteomata on the ribs, one at the upper end of the right humerus and one on the vertebral border of the left scapula. His father was said to have a bony tumour of the tibia. The patient was the ninth of eleven children. An elder brother, aged 19 years, had a similar but smaller tumour of the forearm; it was said to have become much smaller, and caused no loss of function. Another brother, aged 15 years, had a similar tumour, but it caused him very little inconvenience in his work as a typewriter. A sister, aged 6 years, also had multiple osteomata.

Cerebral Non-development.—Dr. G. A. Sutherland showed a girl, aged 7 weeks. When two weeks old convulsions came on in the form of irregular twitchings of face and limbs. Difficulty in swallowing was noticed. The breathing at times was rapid.

The baby was fairly well nourished, the skull and other parts of the body appearing to be proportional in size. She lay in a completely apathetic condition, without smiling or taking any notice when awake, but could be roused to make certain gross movements of the trunk and limbs, although insensitive to pin-pricks. There was marked opisthotonos, with a tendency to left-sided pleurothotonos, and the limbs were in a spastic condition, flexion being present at the elbows and extension at the knees. The hands and feet were in a condition of tetany. Other symptoms: (1) As a rule unable to suck or swallow; (2) attacks of tachypnœa, the respirations running up to 160 per minute, and being cyclic in character; (3) attacks of tachycardia, the heart-rate running up to 200 per minute; (4) fits of crying, causeless, beginning and ending abruptly; (5) spells of yawning; (6) occasional twitching about the face and hands, but no definite convulsive seizure. Fundi normal. Wassermann test negative. Cerebro-spinal fluid scanty but normal; temperature normal.

It was suggested that the underlying condition was one of non-development of the cerebral lobes, and that only the cerebellum, pons, medulla and basal ganglia were active. The uncontrolled action of these lower centres would explain most of the symptoms present.

Malformation of the Rectum (Complete Absence of the Post-allantoic Gut and the Proctodæum); Operation; Result.—Mr. H. S. Clogg showed a boy, aged 4½ years. When five days old he was admitted to the Evelina Hospital. The abdomen was greatly distended; vomiting was frequent. There was entire absence of development of the proctodæum, without any indication where the bowel terminated. Immediate colostomy in left iliac region was performed.

When he was six months old an exploratory operation was performed from the perinæal aspect. The bowel ended blindly at the level of the base of the prostate gland, to which it was adherent; it was separated from the prostate and sufficiently mobilised to enable it to be brought to the perinæal skin without tension, to which, after opening, it was sutured. To render access easier a portion of the coccyx was removed. In order to mobilise the bowel the peritoneum had to be freely incised, and several resistant peritoneal and connective-tissue bands had to be severed. The wound healed

satisfactorily without any retraction of the bowel; later the colostomy was closed.

When shown the bowel was seen to be united to the skin of the perinæum; there was no stenosis nor prolapse; the motions were passed unconsciously; there was complete absence of sphincteric control.

The case was shown to illustrate (1) the advantages of an immediate primary colostomy over a perinæal dissection in cases where the bowel ends at some distance from the perinæum, for a deep perinæal dissection in an infant a day or two old suffering from obstruction must be extremely difficult and probably fatal; (2) that in order to establish a perinæal anus the bowel must be freely mobilised and brought to the perinæal skin without tension, or very troublesome stenosis will result; and (3) the absence of sphincter control which is to be anticipated, since the sphincters are developed from the proctodæum. In this case there were a few fibres in the position of, and having the direction of, the external sphincter muscle, but as a muscle it could not be said to be developed.

Case for Diagnosis.—Dr. O. K. Williamson showed a boy, aged 10 years, who was brought to the Hospital in April, 1912, on account of tremor of the head. The illness began three and a half years before this, when it was noticed that his hands trembled and that he had lost strength in them. After this a fine tremor was noticed in the head. Since this time he had been, on the whole, less bright mentally. He got more easily excited than before, was spiteful and unsteady since the beginning of the illness, and he frequently fell. He had fits of bad temper. Since the beginning of the illness his sight had been affected and his gait unsteady. He improved for a time, but has been worse again of late.

There were coarse tremors of the arms, equal on the two sides, also of tongue; fine tremor of head; gait ataxic and reeling; he tended to fall to the left side; Romberg's sign absent; pupils reacted well to light and accommodation; hearing normal; doubtful slight lateral nystagmus; knee-jerks normal, no definite plantar reponse; speech was indistinct.

The following pathological specimens were shown:

Pharynx and Larynx from Fatal Case of Hæmorrhage from Throat.—Dr. J. D. Rolleston.—Girl, aged 6 years, was admitted to hospital on October the 22nd, certified to be suffering from diphtheria. She had had measles five weeks previously, since when her voice had been husky. On October the 20th she complained of sore throat, and on October the 22nd she had a croupy cough and her neck glands became swollen.

Condition on admission: Deposit on both tonsils and uvula, slight nasal discharge, voice husky, stridor, croupy cough and dysphagia. Temperature 100° F. Sixteen thousand units of antitoxin given.

October the 23rd: Deposit clearing away, leaving marked ulceration of tonsils and uvula. No fœtor. No Vincent's organisms in throat smear. Temperature 103·2° to 100° F.

October the 25th: Sudden and profuse hæmorrhage from throat, cyanosis, and death within five minutes. No diphtheria bacilli, but only cocci, were found in three successive cultures from throat and one from nose.

Specimen shows abscess cavity in each tonsil, ulceration of the uvula, soft palate, epiglottis, frænum epiglottidis, valleculæ, and aryepiglottidean folds. Deep ulceration of the laryngeal portion of pharynx exposing

muscular tissue. Three small superficial ulcers above right vocal cord. Exact site of bleeding vessel not determined, but no evidence of erosion of carotid or internal jugular, or of any glandular abscess.

Primary Carcinoma of the Liver in a Boy, aged 6 years.—Dr. C. Paget Lapage showed a liver which was considerably enlarged, with several rounded prominences on its anterior surface. The marked and progressive engorgement of the abdominal veins and the ascites showed that there was obstruction to the venous return in the region of the liver. There was no jaundice. The post-mortem examination showed that the liver was very large, weighing six pounds, the right lobe being chiefly affected by large masses of tumour, which were also growing into and obstructing the hepatic veins and inferior vena cava; there were secondary deposits in the lungs, but nowhere else. Microscopical examination of the tumour showed polygonal and spheroidal cells in masses and columns, with very little stroma; the cell nuclei were oval or rounded and showed many mitotic figures, and the cytoplasm was granular; there was much fatty infiltration.

There were bile-stained areas in the tumour masses and in the lung deposits, but not in the liver itself.

The evidence for regarding this tumour as a primary carcinoma of the liver was two-fold, viz. (1) the general resemblance of the cells to liver-cells in form and arrangement, and (2) the resemblance in physiological function, as shown by the infiltration of fat and secretion of bile in both primary and secondary growths.

Epidemic Catarrhal Jaundice.—Dr. Leonard Guthrie (*vide* p. 1).

Société de Pédiatrie, Paris.

October the 15th, 1912. (*Bulletin No.* 7.)

Vincent's Angina.—MM. Hallé and Jacquet showed a boy, aged 3 years, with pseudo-membranous ulceration of the pharynx simulating diphtheria, the membrane extending to the uvula. The subsequent evolution of the lesions and the absence of Loeffler's bacillus showed the true nature of the case.

Congenital Malformation of the Heart and Large Vessels.—M. Sedillot showed a boy, born on April the 30th, 1912, with marked cyanosis, increased on crying or feeding. There was a systolic bruit at the level of the pulmonary artery, short, loud, and localised. Autopsy showed transposition of the aorta and pulmonary artery.

Congenital Icterus due to Malformation of the Bile-ducts.—MM. Zuber and Rousselot showed a girl born with marked jaundice, who survived birth four days. There was complete absence of the last part of the common duct and its opening into the duodenum.

Congenital Dilatation of the Small Intestine by Fibrous Bands.—M. Rousselot showed the small intestine of a child, aged 2 months, who

died with symptoms of hypothermia, wasting, vomiting, and diarrhœa. There was a loop of intestine immensely dilated by two fibrous bands arising, one from the anterior surface of the abdominal wall in the neighbourhood of the umbilicus, the other from the peritoneum in the iliac fossa.

Rectal Absorption of "606" by Children.—MM. Weill, Morel and Mouriquand read a paper on this method, in which they affirmed that the arseno-aromatics are easily absorbed by the rectum, that this absorption causes marked improvement in cases of hereditary syphilis and severe chorea, and that except in cases of urgency this should be the method of choice.

Somnolent Form of Azotæmia in Infants: Its Diagnosis from Tuberculous Meningitis.—MM. Nobécourt and Maillet read a paper based on thirty-nine cases, two of which they publish in detail, showing the difficulties of diagnosis. Examination of the cerebro-spinal fluid, which showed a large proportion of urea (0·80 grm. to 2·50 grm. per litre) and a small quantity of lymphocytes, was insisted upon as giving a clear indication.

Case of Infantile Diabetes.—M. Merklen related the case of a boy, aged 8 years, who, had suffered from this affection for probably two years. A table was given showing the quantity of acetone and diacetic acid secreted during the time he was under observation; these quantities were very small. Death by coma.

Sublingual Tumour and Barlow's Disease.—M. Weill Hallé showed a child, who, besides having a sublingual tumour (Riga's disease), developed marked symptoms of Barlow's disease supervening on whooping-cough.

Case of Pneumothorax.—M. Jules Renault related the case of a boy who had pleurisy, following pneumonia with pneumothorax. On succussion there was no result, but movements of flexion of the trunk or the thighs produced a marked amphoric bubble (*bruit de glouglou*).

Enlarged Thymus treated by X Rays.—M. Weill showed a series of photographs, which demonstrated the shrinkage in the thymic shadow under the influence of X rays. In one case of suffocation and dyspnœa the urgent symptoms yielded rapidly to the application of X rays, which had been used for diagnostic purposes.

Pneumonia complicated by Pleurisy and Pericarditis.—M. Raoul Duthoit reported a case in a boy, aged 7 months, in which Cohen's bacillus was the principal organism found, and also a case of epidemic cerebro-spinal meningitis in a boy, aged 4 years, cured by serum therapy.

Thymectomy.—MM. Lévy and Pellot reported a case in a child, aged 9 months, in which the thymus weighed 33 grm. (normal weight at that age 15 grm.). Death from broncho-pneumonia twenty-four hours after the operation.

Vincent Dickinson.

Abstracts from Current Literature.

Medicine.

Diphtheria in the Metropolitan Asylums Board hospitals (*'M. A. B. Rep.,'* 1911).—5034 cases were admitted during 1911 as compared with 3634 during 1910 (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *p.* 30). Exclusive of purely bacteriological cases the percentage mortality was 8·5. The mortality at the various hospitals ranged from 7·4 to 10·8 per cent. Among 862 laryngeal cases there were 135 deaths, a mortality of 15·6 per cent. On 297 tracheotomy, on 56 intubation and on 20 both operations were performed, among whom were 81, 4 and 14 deaths respectively. The percentage error in cases admitted was 12·7. Among the 753 wrongly certified as diphtheria were 485 of tonsillitis, 47 of laryngitis and 22 of broncho-pneumonia; 24 had no obvious disease or were not diagnosed. Of complications paralysis occurred in 11·5 per cent., albuminuria in 12·5 per cent., and otitis in 5·3 per cent. Serum rashes were noted in 30·6 per cent., joint pains in 5·1 per cent., and abscesses at the injection site in 0·4 per cent.

J. D. ROLLESTON.

Malignant diphtheria (*'Thèses de Paris,'* 1911–12, *No.* 298).—**E. Verdoux** records sixteen cases treated at the Hôpital Bretonneau in children aged from one to eleven years, ten of whom died. Cases were most prevalent in large families in which the children received little attention. Late and inadequate doses of serum were partly responsible for the high mortality. The gravity of the cases was due to diphtheritic intoxication and not to association with other microbes. In a large number death occurred early, before the throat had become clear or even before the membrane had begun to loosen, and was usually preceded by one or more of the following signs: vomiting, precocious paralysis of the palate, and abundant albuminuria. In several cases death occurred while the throat was being syringed. The symptoms were due to bulbar intoxication in the first place and possibly also to suprarenal insufficiency. As treatment large and early doses of serum are recommended associated with suprarenal opotherapy.

J. D. ROLLESTON.

Wound diphtheria complicated by paresis of accommodation and myocarditis (*'Hospitalstidende,'* 1912, LV, *p.* 669).—**C. Saggau.**—A girl, aged 12 years, ran a splinter into her foot in the middle of January. At Saggau's visit on the 31st there was an ulcer 4 cm. long by 2 cm. broad on the side of the foot covered by a yellowish exudation. There was a profuse discharge of pus from the ulcer and the loosened epidermis. The wound slowly cleared up under local treatment, but sometime between February 24 and March 3 the child found that she could neither read nor write. In addition to paresis of accommodation the heart was found to be dilated and the pulse rapid, small and irregular. The ocular palsy lasted for about three weeks and cleared up without treatment, and the cardiac condition lasted for a few weeks longer. No bacteriological examination was made, as diphtheria was not diagnosed until after the onset of paralysis, when the wound had healed.

J. D. ROLLESTON.

Blood-pressure in diphtheria (*'Inaugural-Dissertation, Berlin,'* 1912).—**W. Cobliner** examined with Deneke's modification of Riva-Rocci's sphygmomanometer 138 diphtheria patients, whose ages ranged from fifteen to fifty-three years. His conclusions, which differ from those of Weigert Brückner and the abstracter (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, *p.* 433) are as follows: (1) In a large number of severe cases there was a deep and persistent fall of blood-pressure. These cases almost always had complications subsequently, and not seldom ended fatally. (2) Fall of blood-pressure after subsidence of the acute symptoms was in many cases the first sign of a persistent intoxication, and had therefore a prognostic significance. (3) Fall of blood-pressure was very frequently followed by severe cardiac disturbance. (4) The question whether serum has a favourable influence on the blood-pressure was not decided.

J. D. ROLLESTON.

A fatal case of anaphylaxis (*'Münch. med. Woch.,'* 1912, LIX, *p.* 198).—**J. Dreyfuss** records a case in a boy, aged 7 years, suffering from moderately severe diphtheria, who one year previously had received a prophylactic injection of 150 units of diphtheria antitoxin. In one and a half to two minutes after the second injection the child complained of itching in the legs and trunk, and this was rapidly followed by vomiting, clonic convulsions of the limbs, loss of radial pulse, dilated pupils and unconsciousness. No necropsy. Dreyfuss recommends that in cases that have been previously injected the serum of a different animal should be employed.

J. D. ROLLESTON.

Serum-therapy and diphtheritic paralysis (*'Riv. di clin. Ped.,'* 1912, X, *p.* 265).—**U. Calcaterra** records some interesting observations at the Pædiatric Clinique at Bologna. In 61 cases injected on the first day of disease the percentage of paralysis cases was 1·6, in 377 second-day cases it was 9·5, among 257 third-day cases 16·3, among 101 fourth-day cases 21·7, in 52 fifth-day cases 15·3, in 19 sixth-day cases 26·4, and in 13 seventh-day cases 15·3. Large doses of serum, though they did not always succeed in preventing paralysis, considerably diminished their gravity. A bivalent serum, *i. e.* one with antitoxic and bactericidal properties, did not possess in this respect any advantage over ordinary antitoxin. Twenty-two cases received intra-spinal injections as well as subcutaneous. This new method did not prevent the appearance of generalised paralysis or appear to render it less severe (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, *p.* 380). Two of the cases so treated showed signs of transient meningeal irritation, revealed by headache, vomiting, nuchal rigidity and Kernig's sign. Ten cases of diphtheritic paralysis were treated with subcutaneous injections of serum. Almost all showed signs of anaphylaxis, and none showed any improvement that could be attributed to the serum. Calcaterra agrees with Mya that serum-therapy in diphtheritic paralysis is useless.

J. D. ROLLESTON.

The action of Staphylococcus aureus on the Klebs-Loeffler bacillus (*'Journ. Infec. Dis.,'* 1912, X, *p.* 24).—**Lydia M. DeWitt** in a series of 175 cases of diphtheria found that the duration of the Klebs-Loeffler bacilli was less than thirty days in 63 per cent., between fifteen and thirty-five days in 87 per cent., under fifteen days in only 12 per cent., and over forty days in 12 per cent. The recent work on the treatment of diph-

theria carriers with a staphylococcus spray (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, pp. 33 *and* 322) induced her to carry out experiments to determine whether an antagonism existed between *Staphylococcus aureus* and Klebs-Loeffler bacilli. Test-tube experiments showed that the organisms grew well together, and that a killed staphylococcus culture formed a good medium for the growth of diphtheria bacilli. Experiments on rabbits and guinea-pigs showed that though Klebs-Loeffler bacilli frequently disappeared more quickly in animals treated with staphylococcus cultures than in those untreated, this result was not constant, and the clinical symptoms were often more severe under staphylococcus treatment. In 28 per cent. the diphtheria bacilli persisted longer in the treated than in the untreated cases. In two diphtheria patients in whom she employed the treatment, diphtheria bacilli reappeared after two negative cultures had been obtained. The writer suggests that the apparently favourable action of *Staphylococcus aureus* is due, not to an incompatibility between the two organisms, but to the reinforcement of the normal throat flora.

J. D. ROLLESTON.

The use of Staphylococcus pyogenes aureus cultures in a diphtheria outbreak ('*Med. Record*,' 1912, I, *p.* 1228).—**G. B. Lake** employed this method in thirteen cases (*v.* BRITISH JOURNAL OF CHILDREN'S DISEASES 1912, IX, *pp.* 33 and 322). The throats were swabbed once a day with the cultures, which were varied a good deal for purposes of experiment. Bouillon cultures from six hours to five days old, young broth cultures reinforced with two or three loopfuls of agar, cultures suspensions in broth of agar cultures from one to seven days old were all tried. The best results were obtained with bouillon cultures forty-eight to seventy-two hours old grown at incubation temperature.

J. D. ROLLESTON.

Treatment of diphtheria carriers by over-riding with *Staphylococcus aureus* ('*Journ. Amer. Med. Assoc.*,' 1912, LIX, *p.* 690).—**W. F. Lorenz** and **M. P. Ravenel** employed this treatment with success in seventeen cases. A nasal and throat spray was used four-hourly for two successive days, consisting of a fresh suspension of *Staphylococcus aureus* in normal saline solution and a broth culture twelve hours old, and then a bacteriological examination was made. No complications due to staphylococcus infection occurred beyond coryza, very mild laryngitis and nasal furuncles.

J. D. ROLLESTON.

Scarlet fever in the Metropolitan Asylums Board Hospitals ('*M.A.B. Rep.*,' 1911). — 8818 cases were admitted in 1911 as compared with 8782 in 1910 (*v.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *p.* 33). The mortality was 1·9 per cent. The percentage error of diagnosis was 8·7. Among the 843 wrongly certified as scarlet fever were 182 of German measles, 140 of tonsillitis, and 201 of erythema; 137 had no obvious disease or were not diagnosed. The commonest complications were otitis (11·42 per cent.), albuminuria (7·4 per cent.), secondary adenitis (6·3 per cent.), nephritis (3·85 per cent.), and rheumatism (3·80 per cent.); 255, or 3·02 per cent., had relapses. There were 119 cases of post-scarlatinal diphtheria with 1 death—a mortality of 0·8 per cent. Nine of the post-scarlatinal cases were laryngeal, among them being the single fatal case.

J. D. ROLLESTON.

Scarlet fever (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 1528).—**K. K. Koessler,** in a review of the ætiology of scarlet fever, acknowledges that the streptococcus has an intimate biological and clinical relation to the disease. This has been proved by (1) the constant presence of the streptococcus in large numbers in the throat and on the tonsils; (2) the frequency with which it is found in the blood during life and in most of the organs after death; (3) the fact that by far the greater majority of complications in the disease and of deaths in scarlet fever are to be attributed to the invasion of this microbe, and (4) the evidence of systemic reaction to the streptococcus by the presence of antibodies in the blood. The author's researches, however, with the complement-deviation method, using an appropriate antigen, have led him to the conclusion that the streptococcus must be discarded as the ætiological factor of scarlet fever. He finds that the serum of scarlet-fever patients contains specific antibodies for an unknown virus, and that this virus seems to be present especially in the cervical lymphatic glands. The experimental transmission of scarlet fever to apes and monkeys also substantiates this statement. T. R. WHIPHAM.

A rare complication in scarlet fever (*'St. Petersburg. med. Zeitschr.,'* 1912, XXXVII, *p.* 263).—**T. Hecker** records a fatal case of scarlet fever in a child, aged $2\frac{1}{2}$ years. On the third day the condition was so critical that, after consultation, an injection of scarlet serum was given. Great improvement set in, although the submaxillary glands swelled and gave some uneasiness; a few days later erythema multiforme broke out, which was attributed to the serum. On the fifteenth day there was a violent hæmorrhage from the mouth with vomiting, which was presently repeated. The collapse was treated, and was succeeded by several days of high temperature and severe illness. A subcutaneous abscess formed in the lumbar region; another in the right inguinal region. The left foot became swollen and red, and the child died on the twenty-second day of the illness. The autopsy showed a gangrenous excavation of the sinus pyriformis, enlargement of the spleen and liver, and acute purulent peritonitis. Hecker concludes with a brief account of hæmorrhage in scarlet fever. M. D. EDER.

Secondary eruption in scarlatina (*'La clin. inf.,'* 1912, X, *p.* 243).—**H. Rouèche,** in his *'Thèse de Paris,'* 1911, says that during the convalescence of scarlatina, long after the primary eruption, cases may be observed of scarlatiniform eruptions with prodromal phenomena, fever, and bucco-pharyngeal symptoms of the same appearance as in the original attack. These eruptions occur late, from the fiftieth to seventieth day on an average, and must be considered to be late relapses or early secondary attacks. They are especially seen in certain years in which epidemics of scarlatina are benign and almost always where cases are collected together. The symptoms are those of the original attack, and follow in the same order but in a milder form. The throat and tongue are invariably affected. Desquamation is usually branny. Fresh attacks of scarlatina are distinguished by the changes in the tongue and throat from later infections, erythemata and simple scarlatiniform exanthemata, which occur during convalescence, and which, on account of their other symptoms, suggest a fresh attack of scarlatina. These relapses or second attacks occur in patients who have not acquired complete immunity. The influence of an increased virulence of the original micro-organism seems probable, or the cases may be explained by latent microbism, or by scarlatina carriers. Preventive treatment consists in minute disinfection of the bucco-

pharyngeal cavity in all cases of scarlatina throughout the whole duration of convalescence, remembering that the eruption is unimportant, but "the throat and tongue everything." VINCENT DICKINSON.

Scarlatinal suprarenalitis and pancreatitis (*'Arch. de méd. des enf.,'* 1912, xv, *p.* 321).—**L. Tixier** and **J. Troisier** were the first to show that the pancreas might be considerably affected in scarlet fever (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, vol. VII, p. 410), and now record ten cases illustrating involvement of the suprarenals and pancreas in children, aged from three to eleven years, four of whom died. The symptoms of suprarenal involvement in scarlet fever are tachycardia, arterial hypotension, asthenia, epigastric pain, gastro-intestinal disturbance and melanodermia. Except in cases of suprarenal hæmorrhage no macroscopic changes as a rule are seen post mortem, but histological examination shows that these glands are profoundly affected. The lesions are chiefly confined to the cortex, and consist of degenerative and hæmorrhagic lesions with disappearance of the normal lipoids. The symptoms of scarlatinal pancreatitis are not always definite, but are sometimes manifested by acute abdominal pain, most intense in the epigastrium, and lasting on the average three to five days, by intense and rapid emaciation, and by copious ill-digested and fœtid stools. The anatomical lesions of scarlatinal pancreatitis are interstitial and degenerative. The acini are much more often and profoundly affected than the islands of Langerhans. Contrary to what is observed in the suprarenals, diapedesis is well marked. As treatment suprarenal opotherapy, either by adrenalin or suprarenal extract, is recommended. J. D. ROLLESTON.

Measles in the Metropolitan Asylums Board hospitals (*'M.A.B. Rep.,'* 1911).—1537 cases were admitted during 1911, which was the first year in which this disease was admitted to these hospitals. The mortality was 13·9 per cent. This high rate was due to admission being confined to children of the poorest class, and to urgent and necessitous cases recommended by the medical officers of health. Among 318 wrongly certified were 219 of German measles, 27 of erythema, and 21 with no obvious disease. The commonest complications were broncho-pneumonia (17·7 per cent.), otitis (14·10 per cent.), albuminuria (3·9 per cent.), whooping-cough (3·4 per cent.), and diphtheria (1·8 per cent.). J. D. ROLLESTON.

Prodromal rashes in measles (*'Journ. de méd. de Paris,'* 1912, XXXII, *p.* 635).—**H. Rouèche** records seven cases in which the eruption of measles occurred in two successive stages. Three of the children were convalescent from scarlatina and one from whooping-cough. The first eruption, which was associated with catarrhal signs and rise of temperature, was very incomplete, irregular in distribution, and morbilliform, and was followed three or four days later by the characteristic eruption of measles. In only one case were Koplik's spots present. All the cases were mild, the prodromal rashes in no way altering the course or prognosis of the disease.
J. D. ROLLESTON.

Three cases of noma studied bacteriologically (*'Bull et mém. Soc. med. Hôp. de Paris,'* 1912, XXXIV, *p.* 70).—**A. Zuber** and **P. Petit** record three fatal cases following measles in children aged from two to seven years. In the fluid taken from the lesions during life and in sections of the peripheral zone of the gangrenous area the fusiform bacilli and spirilla of

Vincent exclusively predominated. The organisms could not be cultivated and studied experimentally. Local applications of "606" in one case and an intra-muscular injection in another were used without effect.

J. D. ROLLESTON.

Salvarsan and measles (*'Compt. rend. Soc. de Biol.,'* 1912, LXXII, *p.* 525).—**A. B. Marfan** and **L. Lagana.**—A boy, aged 7 years, who had had syphilitic epiphysitis when six weeks old, was admitted to hospital with gummata of the palate. On March 2 he was given an intra-venous injection of "606," 10 cgm., and on the 11th a second injection of 15 cgm. On the 15th he had fever and catarrh and on the 18th a typical measles rash. The injections had thus had no influence on the development of measles. A similar case is recorded by **L. L. Williams** (*'Boston Med. and Surg. Journ.,'* 1912, I, *p.* 738) in a man, aged 22 years, who was given an intra-venous injection of 0·6 grm. on March 31. On April 1 he had typical coryza, and on the 2nd a typical measles rash. J. D. ROLLESTON.

Symmetrical osteomyelitis after smallpox (*'Arch. f. Kinderheilk.,'* 1912, LVIII, *p.* 12).—**C. Schwenk** records a case of a girl, aged 14 years, vaccinated in infancy, who five weeks after smallpox developed swelling and pain of the right, and three days later of the left shoulder. Incision gave issue to a large quantity of pus. X rays showed disease of the acromion on each side. Complete recovery followed removal of sequestra. The symmetrical occurrence of osteomyelitis is very rare. Schwenk records six other cases, three of which occurred after typhoid and one after smallpox, in which both clavicles, humeri, and radii were affected.

J. D. ROLLESTON.

Vaccination in the course of infectious diseases (*'Giorn. internaz. d. Sci. med.,'* 1912, XXXIV, *p.* 817).—**A. Montefusco.**—During a smallpox epidemic at Naples that lasted several years more than 4000 patients in the Cotugno Hospital suffering from various infectious diseases were vaccinated or re-vaccinated. Unlike Jezierski (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, V, *p.* 311), Montefusco did not see a single bad effect result from vaccination. The disease pursued its ordinary course, the complications were not more frequent, and the mortality percentage for several diseases was even lower than in previous years. The various infectious diseases had no effect on the development of the vaccine pustule.

J. D. ROLLESTON.

Delayed appearance of vaccination pustules in measles (*'Monatsschr. f. Kinderheilk.,'* 1912, XI, *p.* 222).—**K. Neumark.**—A child, aged 2 years, was vaccinated during the incubation stage of measles. No reaction was seen on the fifth day, the date of appearance of the measles eruption, nor on the seventh. On the eleventh day two of the four pustules showed a definite reaction corresponding to the condition usually found on the sixth or seventh day. The further development of the pustules was normal.

J. D. ROLLESTON.

Fatal generalised vaccinia (*'Ann. de méd. et chir. inf.,'* 1912, XVI, *p.* 225).—**L. d'Astros** describes the case of a child vaccinated on the fifth day after birth, in whom some days afterwards the signs of vaccination were made more manifest by the formation of new pustules on a hard, red base.

A fortnight later pustules appeared over nearly the whole body, and the child died six weeks after vaccination with hæmorrhage into the pustules and from the mouth and anus. F. R. B. Atkinson.

Bullous dermatitis following vaccinia (*'Med. Record,'* 1912, II, *p.* 290).—**J. L. Kirby-Smith** reports a case in a boy, aged 9 years, in whom ten days after vaccination clear blisters appeared in the neighbourhood of the vaccine pustules, followed a few days later by similar lesions on the body and then on the face. During the next eighteen months there were frequent recurrences, the longest period of intermission being two months. At the time of writing the patient had been free from the eruption five weeks. J. D. Rolleston.

Whooping-cough in the Metropolitan Asylums Board hospitals (*'M.A.B. Rep.,'* 1911).—570 cases were admitted in 1911, which was the first year in which this disease was admitted to these hospitals. Only poor children were admissible. The mortality was 12·1 per cent. Among thirty-seven wrongly certified were twelve cases of bronchitis and five of broncho-pneumonia; thirteen had no obvious disease. The commonest complications were broncho-pneumonia (15·2 per cent.), otitis (4·9 per cent.), albuminuria (3·1 per cent.), German measles (5·5 per cent.), and measles (2·2 per cent.). J. D. Rolleston.

Prolonged epidemic cerebro-spinal meningitis (*'Thèses de Paris,'* 1911–12, *No.* 453).—**Mlle. R. Auchère.**—Prior to the introduction of the serum treatment prolonged cases were relatively frequent, whereas at present four fifths of the cases last less than six days. The chronic form seems to be due to the inflammatory process becoming encysted, especially in the neighbourhood of the base of the brain and the ventricles. It resists serotherapy, and usually terminates either by death or by leaving grave sequelæ, *e. g.* hydrocephalus, deafness, blindness, or paralysis. Recovery sometimes follows trephining. The thesis contains the histories of nine cases, the following two of which are original: (1) Male child, aged 5 months. Death on twenty-seventh day of disease, in spite of intra-spinal injection of 75 c.c. of serum. (2) Female child, aged 20 months. Duration of disease thirty-five days. No hypertension. Recovery after injection of 220 c.c. of serum (*cf.* British Journal of Children's Diseases, 1911, VIII, *p.* 82, and 1912, IX, *pp.* 30 and 169). J. D. Rolleston.

A virulent case of epidemic cerebro-spinal meningitis; 420 c.c. of serum administered; recovery (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 444).—**A. A. Herold.**—The patient was a boy, aged 17 years. He was discharged recovered one month after the onset, considerably emaciated, having lost 40 lb., but with no sequelæ. The case is remarkable for the unusual amount of serum given and the complete recovery in spite of the almost hopeless condition at several different periods of the disease.
J. D. Rolleston.

Koplik's spots in mumps (*'Journ. de méd. de Paris,'* 1912, XXXII, *p.* 759).—**Weill** and **Gardère** state that Koplik's spots are seen in other conditions than measles, such as diphtheria, whooping-cough, tonsillitis, chickenpox, etc. They quote three cases of children suffering from mumps who had had measles previously and who showed Koplik's spots.
J. Porter Parkinson.

Pancreatitis in mumps (*'Paris méd.,'* 1911–12, II, *p.* 240).—**V. Raymond** found pancreatitis present in four out of sixty cases in a severe epidemic of mumps. It was more frequent in adults than in children. It usually occurred between the third and sixth days, and lasted two to five days. The symptoms are classified as follows: (1) Symptoms due to compression of the surrounding structures and especially the abdominal sympathetic plexuses by the hyperæmic pancreas, and consisting in pain, tenderness on palpation, nausea and vomiting, constipation and diarrhœa. Pain on pressure over the ampulla of Vater is almost pathognomonic. This point is found by drawing a vertical and a horizontal line at the level of the umbilicus and bisecting the angle thus formed. The area enclosed between the bisecting line and the vertical line indicates the position of the ampulla. (2) Symptoms indicating infection, viz. fever, herpes, profuse sweating and rapid pulse. (3) Glandular symptoms, consisting in disturbance of the internal or external secretions of the pancreas. Hitherto these have not been noted. The prognosis is good. Only one fatal case has been recorded. Treatment consists in the application of hot fomentations or an ice-bag to the epigastrium. In some cases morphia may be needed.

J. D. Rolleston.

Pancreatitis in mumps (*'Semaine méd.,'* 1912, XXXII, *p.* 85).—**L. Cheinisse,** in a critical review, shows that though the existence of this complication is an undoubted fact, some of the cases so described were really instances of gastritis, which is apt to occur in infectious disease (*vide 'Sem. méd.,'* 1911, XXXI, *p.* 409). As a rule the complication is of short duration and of good prognosis, but there are two cases on record of diabetes having developed shortly after an attack of mumps.

J. D. Rolleston.

Mumps followed by orchitis in a retained testicle (*'Med. Press and Circ.,'* 1912, II, *p.* 164).—**S. J. Ross.**—A boy, aged 14 years, on the eleventh day of mumps complained of severe pain in the right inguinal region. The right half of the scrotum and right inguinal canal were empty. As the pain continued for a fortnight operation was performed, and the testis was found just at the internal abdominal ring. On removal it was found to be very poorly developed and to show typical signs of inflammation.

J. D. Rolleston.

Tetanus as a complication of burns (*'Amer. Journ. Dis. Child.,'* 1912, IV, *p.* 35).—**C. Newberger** records two cases in girls, aged 5 and 6 years respectively, in whom tetanus set in on the eighth day after the burn, and proved fatal in spite of antitoxin about twenty-six hours after its appearance. Sixty-seven other cases are reported in literature, forty-seven of which are tabulated in this paper. Newberger's conclusions are as follows: (1) Tetanus is a not infrequent complication of burns. (2) The mortality is greater in cases occurring in the warmer months of the year. (3) Tetanus complicating burns of the trunk is more serious than when the burn is on other parts of the body. (4) The longer the incubation period the less the mortality. (5) The greatest number of fatalities occurs early in the complication. (6) The prophylactic injection of tetanus antitoxin is advisable in all cases of serious burns.

J. D. Rolleston.

Pneumococcal vulvo-vaginitis (*'Lancet,'* 1912, I, *p.* 1685).—**H. Chapple** records two cases clinically indistinguishable from other varieties of vulvo-

vaginitis in girls, aged 13 and 11 years. In both the pneumococcus was present in direct smears and in cultures. The elder child was seen once only; in the younger child four injections of an autogenous vaccine of 5 million pneumococci was followed by rapid recovery. J. D. Rolleston.

Typhoid fever in children (*'Wien. klin. Rundschau,'* 1912, xxvi, *pp.* 273, 292).—**Zarchi,** in a brief historical *resumé*, remarks that whereas it was formerly held that typhoid was infrequent in children, and that generally the milder forms were the commonest, the prevalent view is that it is relatively common, and not severe forms of the disease are quite frequent. A small epidemic in Freiburg in the spring of 1910 confirmed this opinion. There were thirteen cases aged 1–15 years (very evenly distributed from the first year), ten cases aged 16–30 years, and six cases over 30 years. The epidemic was traced to the milk supplied by one dealer. The mortality among the children was 10·5 per cent., among the adults 25 per cent. Five of the children had intestinal hæmorrhage. In the symptomatology Zarchi points out the frequency in children of vomiting; out of the thirteen patients three children vomited during the early days, and two throughout. All had bronchial catarrh. Rose-spots were only absent in two children (one of them was not seen till fourteen days after the illness began). In nearly all cases a maximum temperature of 40° C. was reached; the spleen was found to be enlarged by percussion in one case, and palpation in all the others. The Gruber-Widal reaction was positive in every case. Leucocytic counts in six cases were as follows: Leucopenia in one case, in two others no diminution, and in three the following variations were found: (1) 6650–26,700; (2) 6606–11,700; (3) 6180–9000. Severe nervous symptoms were present in 30 per cent. of the cases; there were five relapses and no serious complications. M. D. Eder.

Typhoid fever in children (*'Journ. de méd. de Paris,'* 1912, xxxii, *p.* 434).—**Depasse** describes four cases in which the fever occurred suddenly, but there was little increase in the pulse-rate, and believes that such a condition often permits of the diagnosis of typhoid fever.

F. R. B. Atkinson.

Manifestations and treatment of typhoid fever in children (*'Ind. Med. Rec.,'* 1912, xxxii, *p.* 151).—**F. C. Neff.**—Fœtal typhoid is possible, or the child may be born at term with positive Widal's reaction, possessing an immunity acquired from the mother's blood. The younger the individual the more apt is the disease to be a septicæmia without much localisation in the abdomen. The symptoms are often so slight that the child may seem to be normal and not capable of transmitting the disease. Initial chills and other early symptoms are not often seen. It may begin acutely and reach its maximum in a few days, or gradually, when the child loses colour and strength, with increasing fever and somewhat constipated bowels. The first form is most common in younger children and may resemble a pneumonia. There may be no pain at first, even with perforation. Abdominal distension and meteorism are not so common in children, and rose spots, according to Marfan, are absent in one third of the cases. Markedly coated tongue is absent. Perforation is rare under five years. A hypo-leucocytosis is characteristic. In older children the mortality is lower than in adults. *Treatment.*—For every pound weight the child should have daily—milk, 2½ oz.; sugar,

1¼–2½ drm; raw egg, one half; cereal gruel, 1–1¼ oz. In every case a vaccine should be given every four or five days as long as the temperature is high.

F. R. B. Atkinson.

Two cases of pneumo-typhoid (*'Ann. de méd. et chir. inf.,'* 1912, xvi, *p.* 602).—**Cassoute** relates two cases. The first was in a child aged 9 years, who suffered from ordinary typhoid, the temperature falling on the twenty-first day with a large intestinal hæmorrhage. Three days later the temperature rose with signs of pneumonia in the lower lobe of the right lung; the signs and fever persisted for ten days, and then convalescence began. The second case was in a child, aged 5 years, who had been ill two days before admission to hospital with signs of pneumonia in the left axilla. There were no signs of typhoid. The temperature fell on the eighth day to subnormal, but rose two days later, oscillating daily for another five days. The serum reaction was positive, but there was no other sign of typhoid fever. The author insists on the apparent gravity of these cases, but the gravity is only apparent, for the prognosis is generally good.

J. Porter Parkinson.

Adenitis in typhoid fever (*'Journ. de méd. de Bordeaux,'* 1911, xlii, *p.* 249).—**L. Verdelet** records two cases of this rare complication. (1) Child, aged 2 years. Suppurative adenitis of the right epitrochlear glands in convalescence. Pus contained staphylococci. The probable portal of entry was a small wound on the thumb. Complete recovery after curetting. (2) Girl, aged 9 years. Severe typhoid with relapses. In convalescence adenitis of right epitrochlear glands. Resolution without suppuration. The typhoid bacillus was the probable cause of the adenitis in this case.

J. D. Rolleston.

Gangrene of the skin in typhoid fever (*'Thèses de Paris,'* 1911–12, *No.* 262).—**A. P. C. Rouhaud.**—This is a rare condition, and met with almost exclusively in the second period of childhood. It is most frequently seen in debilitated subjects, and therefore is chiefly found in the adynamic and ataxo-adynamic forms of typhoid fever. It is most likely to occur when there has been some pre-existing skin-lesion, such as impetigo, but it may be primary. The prognosis is grave, especially in young children, death being due to septicæmia or complications, *e. g.* broncho-pneumonia, myocarditis, peritonitis, or meningitis. The *Staphylococcus pyogenes aureus* is the organism most frequently found in the lesions. The thesis contains the histories of four fatal cases in children, aged from three to thirteen years, one of which is original.

J. D. Rolleston.

Typhoid spine in a child (*'Progrès méd.,'* 1911, 3 *sér.*, xxvii, *p.* 385).—**Ardin-Deltheil** and **M. Coudray** report the first case published in France in a boy, aged 12 years. The attack of typhoid fever was severe and was complicated by myocarditis and multiple abscesses. The temperature became normal on the fiftieth day. Seven days later he had a sudden attack of severe pain in the right lumbar region, radiating into the thigh and leg and accompanied by a rise of temperature at first suggestive of a relapse. Movement of the vertebral column became impossible and scoliosis subsequently developed. Gradual improvement occurred, and complete recovery was established about two months after the onset of the symptoms.

J. D. Rolleston.

A case of typhoid spine (*'Bull. méd. de l'Algérie,'* 1912, xxiii, *p.* 289). —**J. Curtillet** and **P. Lombard**.—A girl, aged 15 years, two months after mild typhoid fever developed severe pain in the lumbar region. The pain continued, and on admission to hospital four months after the onset there was considerable pain caused by pressure over the fourth and fifth lumbar vertebræ. All movement of the lumbar column was quite lost. On both sides of the trunk a zone of hyperæsthesia, four fingers' breadths wide, extended from the spine along the inguinal folds to the pubis. On the left another band of hyperæsthesia extended from the crest of the ilium to the knee. Gradual improvement followed immobilisation on a hard bed, but the symptoms had not entirely disappeared seventeen months after their onset. The X rays showed a diminution of the intervertebral space between the fourth and fifth lumbar vertebræ, and ill-defined and irregular borders of these vertebræ, especially on the left. J. D. Rolleston.

Fresh case of typhoid spine in a child (*'Arch. de méd. des enf.,'* 1912, xvi, *p.* 842).—**Ardin-Deltheil, M. Raynaud,** and **M. Coudray**.—A boy, aged 10 years, on the twenty-seventh day of a moderate attack of typhoid fever was seized with severe pain in the left lumbar region extending down the hip and thighs. Pressure on the spine and transverse processes of the third to fifth lumbar vertebræ caused intense pain, and any movement of the lumbar column was impossible. These symptoms were accompanied by hyperæsthesia on the inner aspect of the leg and thigh in the area of the fourth lumbar root, and by a meningeal reaction shown by hypertension and excess of albumin in the cerebro-spinal fluid. The X rays showed that there was an absence of the normal notching in the inter-vertebral spaces between the third and fourth and fourth and fifth lumbar vertebræ, and that the upper border of the fifth lumbar vertebra was ill-defined. Considerable relief was afforded by lumbar puncture, and complete recovery took place about two months after the onset. J. D. Rolleston.

Glandular diseases in children (*'Arch. f. Kinderheilk.,'* 1912, lviii, *p.* 103).—**D. Ssokolow** discusses extensively the literature of this subject with eighty-eight references and comes to the following conclusions: (1) It is the most frequent form of disease in childhood and the lymphatic glands are chiefly affected, especially the submaxillary and cervical glands. (2) Affections of the lymphatics of the organs are rarer; the mediastinal and tracheo-bronchial glands are more often diseased than the abdominal. (3) The disease may be acute, chronic or subacute, and develops from the penetration into the glands of non-bacterial or bacterial organisms, most frequently the tubercle bacillus, but the staphylococcus, streptococcus, pneumococcus, etc., are not uncommon. (4) The diagnosis of disease of the peripheral glands is generally easy since swelling and pain on pressure are usually present. (5) The diagnosis of the deeper-lying glands is more difficult, as there may be no objective data to rely upon save a rise in temperature, which may in any form of glandular disease set in acutely, with marked elevation, or be altogether absent. In some cases the fever may be slight and last for months or years. (6) The treatment should be conservative, and rubbing massage or extirpation should be avoided, save in the presence of well-marked purulent inflammation, when the pus should be removed. Where the glands are accessible warm applications should be employed. If the glands of the respiratory system are affected, pure cold air is essential, and

in cases of abdominal glandular mischief a non-exciting, non-fermentative diet is of especial importance. F. R. B. Atkinson.

Suprarenal insufficiency in infectious diseases (*'Thèses de Montpellier,'* 1911-12, *No.* 72).—**F. Granel.**—A suprarenal pathogeny offers an explanation of malignancy in infectious disease, the signs of general intoxication, asthenia, prostration, hypotension, and tachycardia being due to suprarenal failure, which is due partly to lesions of the glandular parenchyma (suprarenalitis) and partly to involvement of the solar plexus. Suprarenal opotherapy is therefore indicated in malignant cases of acute infectious diseases. The thesis contains the histories of eighteen illustrative cases, ten of which occurred in children aged from eighteen months to twelve years, suffering from scarlet fever, diphtheria, typhoid, measles, pneumonia and broncho-pneumonia. J. D. Rolleston.

Degeneration of the suprarenals and other glands in the termination of severe infections (*'Bull. et Mem. Soc. méd. Hôp. de Paris,'* 1912, xxxiii, *p.* 28).—**L. Ribadeau Dumas** and **P. Harvier** record ten cases in children, aged from four to fourteen years, suffering from typhoid fever, acute nephritis, pneumonia, scarlet fever, or diphtheria, who all presented a terminal syndrome characterised by vomiting, profuse green diarrhœa coinciding with sudden aggravation of the general condition, a fall of temperature, and the appearance of a scarlatiniform, morbilliform, or polymorphous rash. The syndrome was not always complete: thus the erythema might be absent, or there might be a rise instead of a fall of temperature. Two symptoms, however, were always present—extreme and early prostration, and a sudden fall of blood-pressure which, combined with other symptoms, suggested suprarenal insufficiency. In all these cases there were multiple lesions in the various glands. Some appeared to be in a condition of functional hypertrophy, such as the thyroid. In others, such as the para-thyroids and hypophysis, there was no notable change. In the suprarenals the lesions appeared to predominate, and consisted of albuminoid and granulo-fatty degeneration with œdema or degeneration with hæmorrhage, both ending in necrosis. The writers therefore regard the terminal syndromes of grave infections as the result of acute polyglandular insufficiency with suprarenal predominance, the symptoms of which may be mitigated by suprarenal medication.

J. D. Rolleston.

Dermatology and Syphilis.

Agenesis of the skin of the abdomen (*'La Med. de los Niños,'* 1912, xiii, *p.* 133).—**Guzman** and **Vargos** describe a fœtal monster born at the eighth month. The skin over the abdomen was absent, giving rise to an enormous tumour externally. The tumour consisted of a vascular membrane, from the centre of which projected the umbilical cord. The liver and intestines could be plainly seen within the tumour. The child lived fifteen hours. Vargos described two similar cases, in one of which he operated; the child died six days after from broncho-pneumonia. M. D. Eder.

Rudimentary marsupial pouch in man (*'Brit. Journ. Derm.,'* 1912, xxiv, *p.* 366).—**E. Ward** records this case in a healthy and well-developed

boy. In the mid-line over the lower part of the xiphisternum was a circular pocket, 1½ in. in diameter, lined by normal skin, and entered by an opening measuring ¼ by ⅛ in. There were no signs of scar-tissue or traces of old inflammation around or inside the pocket. J. D. Rolleston.

Toxic symmetrical erythema of the face (*'Siglo Medico,'* 1912, lix, *p.* 268).—**Briz.**—A child, aged 20 months, after eating something unusual and indigestible, was taken ill with vomiting and slight feverish symptoms. Briz was struck by the symmetrical erythematous patches on either cheek, sharply demarcated from the rest of the normal skin. The patches were of an intense red; there was nothing in the throat. With appropriate treatment all traces disappeared in forty-eight hours. The erythema, by its strict localisation, differed from the urticarias so common in the gastric disturbances of children. M. D. Eder.

Pellagra in children (*'Amer. Journ. Dis. Child.,'* 1912, iv, *p.* 172).—**J. R. Snyder** addressed letters to sixty physicians asking for various data regarding this disease. As a result of his inquiries he finds that the youngest case was a child aged 2 months, and that 10 per cent. of all pellagrins are children under fifteen years of age. Marked nervous symptoms are not common; heredity plays little or no part in its causation. The possibility of transmitting the disease by the mother's milk could not be disproved.
F. R. B. Atkinson.

Ten pellagrins in one family (*'Journ. Amer. Med. Assoc.,'* 1912, lviii, *p.* 1940).—**J. E. Knight** describes a family of eleven, ten of whom suffered from this disease; the youngest, a baby aged 2 years, was the only one who as yet showed no symptoms of the complaint. The corn-meal used by the family was found to be unfit for consumption. Corn in all forms was forbidden and intestinal antiseptics employed. At the time of publication all the patients were doing well. F. R. B. Atkinson.

A study of livedo (*'Thèses de Paris,'* 1911–12, *No.* 285).—**C. P. M. Guille.**—Livedo is characterised by a more or less confluent mottling of the skin, violet-red in colour, in marked cases involving the whole integument. The colour is best developed at the periphery of the limbs, and becomes less marked towards the trunk. The condition is met with in rings on the upper extremities and on the trunk (livedo annularis), and on the lower limbs as a wide-meshed network (livedo reticularis). There is no disturbance of sensation. Although as a rule fairly characteristic, livedo may be confounded with other lesions, especially ecchymotic measles, simple acrocyanosis, abnormal forms of purpura, and pityriasis rosea. It is transitory and paroxysmal when due to the action of cold alone (livedo calorica), but persistent when due to a disturbance of the general condition, such as a varicose state, rheumatism, hyperthyroidism, and tuberculosis. The prognosis depends upon the causal affection. Treatment must be both local (stimulating frictions and saline baths) and general (glycero-phosphates and thyroid or suprarenal opotherapy). The thesis, inspired by Comby, contains the histories of twenty-one cases, sixteen of which are in children aged from eight months to fourteen years. J. D. Rolleston.

Chronic urticaria cured by injections of nucleinate of soda (*'Lyon méd.,'* 1912, cxix, p. 100).—**MM. Weill, Gardère** and **Goyet** report

the case of a girl, aged 11½ years, who had suffered for four years from abdominal pains and urticaria, which appeared suddenly in the evening, rapidly spread over the limbs and abdomen, and only disappeared in the morning. Fifty cgm. of nucleinate of soda in 10 c.c. normal saline were injected into the thigh; two days later the attacks of urticaria ceased and did not return, and the number of leucocytes increased from 2000 to 20,000. The following days they fell rapidly to below normal. The action of the drug, however, was prolonged for seventeen days in spite of the rapid fall of leucocytosis. These facts suggest that the nucleinate of soda prevented the urticarial eruption by modifying the toxins of the organism, thanks to the multiplication of the number of leucocytes and the stimulation of the phagocytic formation.

VINCENT DICKINSON.

Infantile eczema and indigestion (*'Amer. Journ. Dis. Child.,'* 1912, IV, *p.* 219).—**H. P. Towle** and **F. B. Talbot** find that cases of indigestion in children showing an intolerance of fat are frequently associated with an acute inflammatory eczema, with a marked exudative tendency, whereas in those cases in which indigestion of solid foodstuffs dominated the picture, the eruption was only of moderate intensity, with little tendency to exudation, but at the same time they consider that indigestion occupies only an intermediate position, if any, in the production of eczema.

F. R. B. ATKINSON.

A case of dermatitis gangrenosa (*'Austral. Med. Journ.,'* 1912, I, *p.* 677).—**W. Chaplin.**—A boy, aged 14 years, recovering from empyema, presented a slight erythema 1½ in. from the spine on the left side and parallel to the spine to the extent of about 6 in. Papules and pustules arose which gradually sloughed until an area, 6 by 9 in., was one continuous raised slough. The treatment consisted of equal parts of ichthyol with glycerine dabbed into the papules in the early stage, and 2 drm. of ichthyol to an ounce of glycerine as a dressing. One in 2000 $HgCl_2$ wash was used as well. Boroglyceride ointment 1 in 8 was found to be the most soothing dressing for healing purposes. Skin-grafting by Thiersch's method was employed with success after the slough had come away.

F. R. B. ATKINSON.

Pyodermia due to diphtheria bacilli (*'Ann. de Derm. et de Syph.,'* 1912, 5 *sér.*, III, *p.* 82).—**A. de Verbizier** reviews the literature, and records a personal case in a girl, aged 7 years, suffering from catarrhal jaundice, who also had discharge from the right nostril, purulent vaginal discharge, pustules on the buttocks, and a boil on the right arm. Examination of the nasal and vaginal discharge revealed a larger number of organisms, which at first appeared to be gonococci, but afterwards proved to be pseudo-gonococci. As no improvement followed syringing the nostrils and vagina with a solution of potassium permanganate, further bacteriological examination was made, and showed diphtheria bacilli both in the nasal and vulvar pus. Antitoxin was injected, and rapid recovery ensued. Pus from the boil on the arm also showed diphtheria bacilli, which proved fatal to guinea-pigs within thirty hours from injection. Reference is made to Smith's case of diphtheria of the vulva (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, *p.* 371).

J. D. ROLLESTON.

Diphtheritic inflammation of the skin and subcutaneous tissue (*'Deut. Zeitschr. f. Chir.,'* 1912, CXV, *p.* 310).—**C. Deutschländer** classifies

this into (1) cutaneous diphtheria as an accompaniment of generalised diphtheria, and (2) cutaneous diphtheria as a localised and independent affection. Class 2 is further subdivided as follows: (1) Diphtheria of the skin that has undergone a pathological change—(*a*) true wound diphtheria; (*b*) diphtheria supervening on inflammatory skin processes. (2) Diphtheritic inflammation of the healthy skin—(*a*) ulcerative cutaneous diphtheria in which the superficial layers of the cutis are primarily involved; (*b*) phlegmonous cutaneous diphtheria in which the bacilli penetrate from the first into the subcutaneous tissue, producing an extensive brawny swelling, finally ending in necrosis and gangrene. The author records a personal case of this variety in a girl, aged 3 years, who, ten days after a plastic operation for poliomyelitis, developed a brawny infiltration in the adductor region where a plaster bandage had caused a slight excoriation. The inflammation extended over the front and inner side of the thigh, producing vesiculation and cutaneous gangrene. A pure culture of diphtheria bacilli was found. Slight improvement followed injection of antitoxin, but death took place from heart failure. No necropsy.

J. D. Rolleston.

Subcutaneous multiple tuberculous gummata in an infant (*'Arch. de méd. des enf.,'* 1912, xv, *p.* 599).—**R. Dupérié.**—A girl, aged 13 months, who had suffered for the last five months from multiple subcutaneous indurations, died from acute meningitis due to the tubercle bacillus of Koch and meningococcus. Only six cases had been found in the literature where these two organisms were associated.

F. R. B. Atkinson.

Facial asymmetry in a case of scrofuloderma (*'Med. Record,'* 1912, ii, *p.* 291).—**M. Zigler** records a case of a girl, aged 12 years, in whom the right side of the face was very much more prominent and protruded considerably forwards, while the left appeared to recede. The right eye and ear, right ala nasi and right side of mouth were all on a higher plane than the left. X rays showed that the right antrum of Highmore was smaller than the left. An incrusted lesion was found over the upper part of the sternum as well as ulceration of the right buttock. Von Pirquet positive, Wassermann negative. Rapid recovery followed applications of solid carbon dioxide with creosote internally.

J. D. Rolleston.

Hyperhidrosis circumscripta (*'Journ. Amer. Med. Assoc.,'* 1912, lix, *p.* 1193).—**R. L. Sutton** describes a case in a boy, aged 6 years, in whom the lesions were confined to the inner extremity of the left eyebrow. The infant became apparently normal at the end of three weeks' application of the Röntgen rays, applied bi-weekly.

F. R. B. Atkinson.

Verruca seborrhoica juvenilis (*'Amer. Journ. Derm.,'* 1912, xvi, *p.* 424).—**W. P. Cunningham** records five cases in children below the age of ten years—three in girls and two in boys. The condition has not been previously described. The lesions, which were numerous on the face and hands, were small, flat, and rounded or polygonal elevations, somewhat darker than the surrounding skin, and with a tiny scale on the top. After the use of resorcin lotion the lesions settled down to the level of the surrounding skin, and broadened out into well-defined scaly patches of an unmistakable seborrhœic character. After a few more applications of the lotion they disappeared entirely.

J. D. Rolleston.

Tylosis palmaris et plantaris, with report of three cases (*'Edin. Med. Journ.,'* 1912, VIII, *p.* 342).—**L. Thatcher** describes three children, a boy aged 11 years 7 months, a girl aged 7 years 5 months, and a boy aged 5 years 11 months, of one family suffering from this condition. It was completely absent at the normal flexures and areas of no pressure. The treatment adopted was as follows: Complete rest, starch poultices, soaking in a strong solution of carbonate of soda, scraping off as much of the softened *débris* as possible, and then applying 3 per cent. salicylic acid plaster. At times acidi salicyl. gr. xxx, ichthyol ʒj, ol. olivæ ♏xxx, lanolini ʒj was applied instead. After some months all marked thickening had disappeared, and the children could get about easily. Three years later the condition was as bad as before. F. R. B. Atkinson.

Mongolian blue spots (*'Arch. de méd. des enf.,'* 1912, XV, *p.* 446).—**A. Bruch** reviews the literature (*vide* British Journal of Children's Diseases, 1912, IX, *p.* 42), and states that in Tunis these spots are frequently seen in the native children. In some there is only a single small spot, while others show large patches. They possess a medico-legal interest, in that they may be mistaken for bruises. J. D. Rolleston.

Extensive pigmented and hairy nævus (*'Journ. Amer. Med. Assoc.,'* 1912, LVIII, *p.* 1190).—**H. Fox** records a case in a girl, aged 4½ years, in whom the lesions had been present since birth, but the pigmentation had gradually become darker and the hair more profuse. No family history. General health and intelligence good. The greater part of the nævus consisted of a solid symmetrical sheet involving the lower two-thirds of the trunk and the upper three quarters of the thighs. The colour was brown, mottled by black spots. The greater part of the area was covered by abundant dark hair, most marked on the front of the thighs. The remaining parts of the body, including the face and scalp, presented a large number of pigmented spots, the larger covered with hair and the smaller smooth. There were also three soft tumours on the lower part of the back, and another three arising from the labia majora. Some improvement had been obtained in the lesions on the face and hands by application of nitric acid, phenol, and carbonic acid snow. A review of the literature is appended.
J. D. Rolleston.

A simple stain for the Spirochæta pallida (*'Journ. Amer. Med. Assoc.,'* 1912, LVIII, *p.* 1682).—**Ruth Tunnicliff** has found that this organism stains readily, usually in two or three seconds, with a 10 per cent. mixture of a saturated alcoholic gentian-violet solution in 5 per cent. phenol. A very thin smear is essential for obtaining a satisfactory stain of fresh material.
J. D. Rolleston.

Chancre of the scalp (*'Thèses de Paris,'* 1911–1912, *No.* 398).—**G. Rabourdin** has collected thirty-eight cases from literature, four of which occurred in the newborn, and seven in children aged from three to six years. In the newborn the chancre is of obstetrical origin and is due to extra-uterine infection. The other children had been contaminated by their syphilitic mothers' kisses or by the use of an infected comb. In two cases the scalp had been the seat of pre-existent lesions, pediculosis and prurigo respectively (*cf.* British Journal of Children's Diseases, 1912, IX, *p.* 44).
J. D. Rolleston.

Icterus in congenital syphilis (*'Deutsch. med. Woch.,'* 1912, XXXVIII, *p.* 756).—**O. Rosenberg** records illustrative cases of the following: (1) Severe congenital icterus due to obstruction of the large bile-ducts by a portal gumma (periphlebitis gummosa). (2) Severe icterus cured by anti-syphilitic treatment and probably due to a gummatous cholangitis. (3) Severe icterus occurring during the early eruptive period with parenchymatous degeneration of the liver-cells without any interstitial inflammation. (4) Icterus also occurring during the eruption period but associated with a high degree of pre-existent interstitial hepatitis. (5) Icterus occurring in the eruptive period complicated by coexistent infective disease. J. D. ROLLESTON.

Craniotabes and heredo-syphilis (*'Ann. de méd. et chir. inf.,'* 1912, XVI, *p.* 481).—**Leroux** and **Labbé,** from examination of 32 cases, come to the conclusion that craniotabes is an osseous dystrophy due to multiple causes, among which heredo-syphilis plays a preponderating part, but not unique, for other heredities, especially heredo-tuberculosis and heredo-alcoholism, may also have an influence. In the thirty-two cases examined heredo-syphilis was found (alone or associated) in seventeen, heredo-tuberculosis in five, heredo-alcoholism in two, other heredities in three, causes unknown in five. The authors remark that craniotabes generally occurs in infants affected by dystrophic heredity, usually born prematurely or debilitated, infants whose nutrition has suffered during pregnancy. This complex ætiology of craniotabes is exactly the same as that of rickets, of which it is an early manifestation. The preponderance of heredo-syphilis in the ætiology of craniotabes would therefore appear to be due to its being a predisposing cause of rickets. C. F. MARSHALL.

Mortality and proportion of backward children in cases of congenital syphilis followed subsequent to hospital treatment (*'Boston Med. and Surg. Journ.,'* 1912, II, *p.* 278).—**W. P. Lucas** records his investigations in a series of 59 cases, whom he classifies as follows: (1) 19 were apparently mentally normal; 5 of these were of school age, ranging from six to sixteen years, 10 were between two and six years, and 4 were under two; (2) 19 were backward mentally, of whom 11 were of school age, ranging from six to sixteen years, and 8 between two and six years; (3) 21 had died. The heavy mortality and high percentage of backward children are attributed to not following up the initial treatment. In many cases this was discontinued as soon as the eruption had disappeared.

J. D. ROLLESTON.

Exception to Profeta's law (*'Presse méd.,'* 1912, XX, *p.* 664).—**Vilanova.**—A man infected with syphilis in 1907 married the same year and became a father in 1908. There was then no sign of syphilis in mother or child. The child was kept under observation for two years and showed no sign of syphilis. In March, 1911, the woman was found to have a chancre of the right breast with well-marked enlargement of the right axillary glands. She had now a second child, which presented mucous tubercles on the lips and an eruption on the soles. In spite of intense mercurial treatment the woman had an attack of malignant syphilis. [This case is really an exception to Colles's law, not to Profeta's.—J. D. R.]

J. D. ROLLESTON.

Wassermann reaction in infants and children (*'Amer. Journ. Dis. Child,'* 1912, III, *p.* 363).—**F. S. Churchill** employed the reaction in 102

children, aged from three days to twelve years, admitted to hospital with various diseases, but none as a case of syphilis. A positive result was obtained in 39 cases; 24 of these gave suggestive physical signs; in 5 there was a suggestive family history or positive personal record, and in 10 there was no family history, personal record, or physical signs suggestive of syphilis. Possibly some of these were cases of *syphilis hereditaria tarda*, of which the symptoms would appear later, but in three fatal cases in his group there was no gross or microscopic evidence of syphilis post mortem. The greatest number of positive results was obtained in diseases of the bony, nervous and circulatory systems, which are particularly apt to be attacked by syphilis. J. D. ROLLESTON.

Value of Wassermann's reaction in hereditary syphilis (*'Presse méd.,'* 1912, xx, *p.* 271).—**E. Andronesco** and **P. Saratzeano** tested twenty-two children and thirteen mothers by Wassermann's original method. In eighteen of the children and twelve of the mothers there was a positive reaction. The fathers' blood was examined in two cases and found positive in one. The one negative maternal case was not one of syphilis either in the parent or child. Several of the children who reacted positively were suffering from diseases of doubtful ætiology, *e. g.* Little's disease, alternating hemiplegia, and hæmophilia. The authors' conclusions are as follows: (1) Colles's law is quite correct; (2) mothers of syphilitic children give as positive a Wassermann as cases of florid syphilis; (3) the number of births has no influence upon the reaction; (4) the Wassermann reaction is more intense in congenital syphilitic children than in their mothers who are free from visible lesions. CHRISTOPHER ROLLESTON.

Rickets and Wassermann's reaction (*'Gazz. d. osp.,'* 1912, xxxiii, *p.* 642).—**D. Caffarena** tested Wassermann's reaction in twenty rickety children and found it positive in six. Two children whose blood gave a positive reaction gave a negative reaction with their cerebro-spinal fluid. The literature is reviewed, special reference being made to the work of Marfan and the relationship of rickets to syphilis (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1907, iv, *p.* 504). J. D. ROLLESTON.

Employment of salvarsan in infants and young children (*'Arch. of Ped.,'* 1912, xxix, *p.* 654).—**L. E. La Fetra** within the last year has treated 25 cases of congenital syphilis, aged from six weeks to two years, at the Bellevue Hospital, New York; 10 received salvarsan, with or without mercury, and 15 were treated with mercury alone. Of the former only 2 died; all the rest showed marked gain in weight and improvement in the general condition in addition to disappearance of specific symptoms. Of the latter, 3 improved, 2 were not improved, and 10 died. The dosage of salvarsan recommended was not less than 0·01 gramme per kilo weight. J. D. ROLLESTON.

Salvarsan in congenital syphilis (*'Deut. med. Woch.,'* 1912, xxxviii, *p.* 761).—**E. Andronescu,** of Bucharest, used the indirect method in three cases, with good results in two, aged 3 months each, and the direct method in six, with success in four, aged 1 month, 6 weeks, 7 months and 4½ years. J. D. ROLLESTON.

Hereditary syphilis treated with "606" (*'Gazz. internaz. d. med. chir., etc.,'* 1912, *pp.* 652, 727 and 776).—**L. Maccone** records ten cases in

children aged from eighteen months to twelve years. Five recovered, four showed some improvement, and in one there was no change. Of nine who at first gave a positive Wassermann's reaction, eight became negative after treatment. Maccone thinks that "606" is an efficient remedy in the secondary generalised forms of heredo-syphilis. In the tertiary localised forms it is less active, while in the quaternary and quinary or dystrophic forms its rection is *nil*. Intra-muscular injections into the gluteal region constitute the best method. The intra-venous route should be reserved for older children. Salvarsan treatment should be followed by a course of mercury, and Wassermann's reaction should be tested six months or a year after the cessation of all treatment. J. D. Rolleston.

Elimination of "606" by the mother's milk (*'La Pediatria,'* 1912, x, *p.* 295).—**D. Caffarena** conducted nine experiments with a view to clearing up the difference of opinion which exists on this subject. He found that arsenic was eliminated by the milk after intra-venous or intra-muscular administration of "606," and that the duration of its elimination was two to three days if the injection was intra-venous and ten to twelve days if it was intra-muscular. These results agree with those of Hoppe, Fischer, and Freupel. Repeated intra-muscular injections of the mother, therefore, give the best results, since by this method the child is subjected to the most prolonged influence of the drug. Intra-muscular injections are also preferable to intra-venous, since bad results have been observed by several authors after the latter. Jesionek explained this effect by the supposition that "606" introduced directly into the blood caused a rapid destruction of a large quantity of spirochætes with liberation of an excess of endotoxin, whose elimination began before the maternal organism had time to produce as a defensive reaction the antagonistic substance, *i. e.* antitoxin.

Vincent Dickinson.

Rectal absorption of "606" in children (*'Lyon méd.,'* 1912, cxix, *p.* 45).—**Weill, Morel** and **Mouriquand** were led by the difficulties of intra-venous injection in young children to administer the drug *per rectum*. There was total absence of any rectal or general reaction even after injection of 40 cgm. of salvarsan. The children treated were from ten to thirteen years of age. A dose of 10 cgm. was first given, the second contained 20 cgm., the third 40 cgm. The same technique was followed as was laid down by Ehrlich for intra-venous injections, five to ten drops of laudanum being added to the solution to ensure rectal tolerance. It must be retained as long as possible—four hours at least. The authors found that the arseno-aromatics and particularly salvarsan were easily absorbed by the mucous membrane of the child; that this absorption caused amelioration of a marked character in certain cases of hereditary syphilis and severe chorea. Excepting in urgent cases the rectal route is to be preferred in children, as it has sufficient activity without causing any local or general reaction.

Vincent Dickinson.

Reviews.

Studies in Clinical Medicine. By C. O. Hawthorne, M.D. London: John Bale, Sons & Danielsson, 1912. Pp. 441, 46 illustrations in the text. Price 6s. net.

The papers and clinical lectures collected together in this volume represent the active work of a general physician who, though he appears to be specially interested in neurology, has a broad outlook on medicine. Most of the articles have been published before, but the author says that they have all been revised and that some have been partly rewritten. The subjects dealt with are of great interest, and reflect credit on the author for the careful way in which he has worked up the clinical material at his disposal. There is a series of articles on rheumatism and its manifestations, among which subcutaneous nodules are considered at length. Dr. Hawthorne's experience as physician to an ophthalmic hospital provides material for papers on the practical bearing of retinal changes on general medicine; for example, "on the diagnosis of pernicious anæmia," and "on retinal embolism, with two cases in which a normal standard of central visual acuity was retained." There is a note "on sudden greyness of the hair," in which reasons are brought forward in support of the popular belief that this really does occur. As there are articles on renal disease, infective endocarditis, on affections of the respiratory and alimentary systems, on drug idiosyncrasies, and a number on nervous disorders, it is unlikely that anyone will take up this well-illustrated book without finding something attractive. H. D. R.

Goulstonian Lectures on Modern Views upon the Significance of Skin Eruptions. By H. G. Adamson, M.D., F.R.C.P. Physician for Diseases of the Skin, St. Bartholomew's Hospital. London: John Bale, Sons & Danielsson, 1912. Pp. 103. Price 3s. 6d. net.

In his Goulstonian lectures Dr. Adamson gives us a clear account of modern views on the subject of dermatology, a branch of medicine which concerns the pædiatrist almost as much as the dermatologist. He shows us that many of the various skin eruptions are not to be regarded as distinct morbid conditions, but as cutaneous reactions to physical, microbic or toxic agents which damage the skin, the form of eruption differing according to the type of cell reaction which produces them, *i. e.* according to the part of the skin which is damaged and the severity of the damage. He discusses the question of immunity in skin diseases, and shows that there is evidence of this in streptococcal impetigo, ringworm, favus, and lupus. He regards vaccine treatment as useful in staphylococcic infections, but not in acne, and concludes that immunity reactions are at present of little value in the treatment of skin diseases. The part played by toxins and autotoxins in the production of skin affections is ably described. The phenomenon of anaphylaxis is also discussed, and Dr. Adamson remarks that this phenomenon suggests that drug eruptions are produced by toxic albumins resulting from the action of the drugs on the cells, and not by the physiological action of the drugs themselves.

Dr. Adamson considers that the influence of the nervous system in the production of eruptions is a limited one, and that some affections, such as

lichen planus, alopecia areata, and pemphigus, which have been attributed to this influence, are more probably of toxic origin. The chief eruptions in which there is clear evidence of nervous origin are herpes zoster, hyperidrosis, and glossy skin. He discusses the causes which influence the distribution of eruptions, and changes in the soil which favour the growth of one parasite but not another. As an example of the latter he mentions that some change in the sebaceous secretion at puberty probably suits the acne bacillus, but not the ringworm fungus. Dr. Adamson is to be congratulated on his lucid exposition of a difficult subject, and we would recommend every student to study this little book before losing his bearings in the maze of the ordinary text-book on dermatology. C. F. M.

L'Arséno-Benzol chez la femme enceinte et les nourrissons dans le traitement de l'Hérédo-Syphilis. By Dr. Louis Scoffier. Paris: Jules Rousset, 1912. Pp. 227.

This book describes in an attractive way the methods of treatment of hereditary syphilitic children, and especially the employment of arseno-benzol for such patients. While acknowledging the success obtained in the past with mercury, the author claims that in certain cases arseno-benzol is preferable, and his views should be read by all interested in pædiatrics.

It seems to us that perhaps he rather over-estimates the good results which can be obtained by injecting the mother with "606" while she is suckling her syphilitic baby. The amount of arsenic contained in such milk is almost infinitesimal, and, even if the drug does cause the formation of endotoxins in the mother, it is not certain that large quantities of anti-toxins pass to the infant. And the eighteen cases collected here do not by any means include all the literature of the subject, and some very unsuccessful cases have been recorded.

An excellent description of laboratory methods of diagnosis is given, and the various techniques are ably discussed and differentiated.

Dr. Scoffier adds some interesting details of cases of hereditary syphilis which have been under his personal observation. These include sixteen cases in which the syphilitic infant was injected with arseno-benzol, sometimes on more than one occasion, but always intra-muscularly. In the majority of cases the results were very successful, the disease was cured, at least temporarily, and accidents, such as necrosis or the formation of abscess at the point of injection, extremely rare. But of these sixteen cases, three died, and it is, of course, mere speculation to wonder whether these patients would have done better if they had been injected intra-venously. At any rate, we shall be interested to see what results Dr. Scoffier obtains in his next series of cases, if that includes some of intra-venous injection in infants.

He appears to have obtained good effects from the injection of the mother during pregnancy with "606," as in the three reported cases the child was born healthy and apparently free from syphilitic manifestations. But in one pregnant woman, who had had twelve injections of mercury at the beginning of the year, he further injected four decigrammes of arseno-benzol in July, although she showed no symptoms of syphilis. Such injection of pregnant women does not appear to have any unfavourable influence on the pregnancy, and the children are born at full term.

In conclusion, the author states his belief that arseno-benzol is the best drug to employ in the treatment of hereditary syphilis. J. L. B.

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TREATMENT OF ACUTE ABDOMINAL CASES IN CHILDREN.*

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THERE is always particular interest attaching to the treatment of acute disease, and the most interesting cases are those in which the doctor has to fight for the patient's life through an acute condition. Probably few cases are more interesting or require more skill and attention than the acute abdominal conditions met with in children. Children are always specially interesting patients, because they show us a clinical picture of the disease uncomplicated by mental or psychical phenomena. Children do not suffer from nerves and are not in the habit of exaggerating their symptoms, or misleading one by their descriptions of them. Further, most children are quite unable to describe what they feel, and one has to go entirely by the actual physical signs and symptoms which are present. Children differ from adults also in being either very much better or very much worse. One seldom sees a child suffering from a serious disease who remains long in an intermediate condition.

* A post-graduate lecture given at the Queen's Hospital for Children, November the 22nd, 1912.

Children are always very bad or very well, and the transition from one state to the other is so rapid that it often surprises us when we see it. Children react wonderfully to treatment, and, on the other hand, they die terribly quickly if our treatment is wrong or unsuccessful.

The diagnosis is often a matter of great difficulty, and temporising is always impossible. Everything depends upon early recognition and early treatment of the condition, and it is not possible to "wait and see." If one had to state the cardinal fact with regard to acute abdominal conditions in children in the form of an epigram one might say that "prompt treatment is the essence of success." In reality this is the most important point of all, whenever we are dealing with acute abdominal conditions both in children and in adults; but in children the necessity for prompt treatment is much greater than in the case of their elders.

Nearly all the acute abdominal conditions met with in adults may also be found in children. Many of them, however, are extremely rare. I have seen such conditions in children as double pyosalpinx and strangulation of the small intestine by a band. Such conditions, however, may be looked upon as surgical curiosities and are hardly to be anticipated.

The common acute abdominal conditions in children are—first intussusception, secondly acute appendicitis, and thirdly some form of acute obstruction.

(1) Intussusception.

This curious condition almost invariably attacks a perfectly healthy, well-nourished child, often without there being at the time any apparent cause. I do not remember ever to have seen a wasted, poorly nourished baby with intussusception. The children in whom one sees it are nearly always the pride of the family, and have never had a day's illness in their lives before. I believe the commonest cause of the condition to be the swallowing by the child of some hard material which it is unable to digest, and which becomes stuck at the ileo-cæcal valve, thereby starting an invagination of this portion of the gut into the cæcum below. It is rather significant that, according to Mr. Fitzwilliams' figures,* worked out for 453 cases, the greatest incidence of cases of intussusception occurred just after the public Bank Holidays at Easter and Christmas. Not infrequently the child's parents attribute the onset of the

* 'Lancet,' 1908, ii, pp. 628 and 709.

condition to some fall. This, however, is so common an ætiological factor in all children that I think we need not attach any importance to it. Most children tumble down in some way or other several times a day, and as soon as they become ill the last tumble is immediately made responsible by parents who are invariably in search of a cause.

The child is usually seized quite unexpectedly with sudden violent pain in the abdomen. It begins to cry and will not be comforted. It refuses food, it may be sick, and in a very short time there is a small action of the bowels usually containing some red, jelly-like material. Not infrequently the first action is more or less normal; generally, however, this is followed by the typical apple-jelly stool of intussusception. Although this may be very small in quantity it is quite characteristic of the condition. An examination of the abdomen will nearly always reveal a swelling, usually sausage-shaped, in some part of the abdomen, the most common situation being transverely just above the navel. This swelling is obviously always present, but it is by no means always felt. It can usually be detected under an anæsthetic, but a good deal will depend upon whether the child is very fat. When it is felt the diagnosis is absolutely clear. The association, however, of the sudden onset of abdominal pain with apple-jelly stools is quite sufficient for diagnosis, as also would be the presence of an abdominal tumour with the onset of acute abdominal pain without the characteristic stools.

Everyone will now agree that the only possible way to deal with a case of intussusception is to reduce the intussusception at the earliest possible moment. In the past there has been considerable discussion as to whether the reduction should be attempted by inflation of the bowel with air or water. While there can be no doubt at all that some cases of intussusception can be reduced by this method, I think all surgeons are now agreed that it is not one which it is advisable to adopt. In the first place, the treatment by inflation causes a considerable amount of shock, and one is never quite certain that the intussusception has been reduced. Secondly, should this treatment fail the child is in a far worse condition for operation than it would have been had this method not been attempted. On the other hand, if the child is operated on at once the result is almost certain to be successful. The operation is a simple one and can be very rapidly performed. When, however, the condition has lasted for more than twenty-four hours the result is always a matter of doubt. If the intussusception is found to be

reducible at the operation the child will probably recover; when, however, it is irreducible, in the vast majority of cases the children die. It is true that there are now a number of recorded cases of children who have survived after an irreducible intussusception has been resected; but, unfortunately, such cases form a very small proportion of the cases of irreducible intussusception met with. Sometimes an intussusception will become irreducible within twenty-four to thirty-six hours after the onset of symptoms; while, on the other hand, I have several times operated upon cases where the symptoms had existed as much as three or four days, and yet have been able to reduce the intussusception. So that an operation is nearly always worth attempting, especially as the outlook otherwise is practically hopeless.

Everything in these cases depends upon early operation and upon gentle handling of the parts. These babies with acute obstruction will not stand a long operation, although they stand a short one exceedingly well. It is quite remarkable to see the amazing rapidity with which they recover. I have frequently been called to come down to the hospital late at night to see a baby some two or three years old, and have found the child in fearful distress, half unconscious, with rapid running pulse, and all the symptoms of impending death. An anæsthetic has been adminstered, an incision made in the abdomen, the intussusception rapidly reduced, the wound sewn up, and the child sent back to bed. I have gone down the next day, and on entering the ward have found the child, who was so ill the night before, sitting up in bed, smiling and looking as if nothing on earth was the matter with it.

It is important to remember that babies will not stand starvation, even for a short period. My practice is always to give them nourishment as soon as they can swallow. Frequently a baby with intussusception has gone from the operating theatre to the ward and been put to its mother's breast, or been given the bottle, within half an hour. The important factor is to see that the child gets its usual form of nourishment at its usual time. This is more essential when it is ill than when it is well.

Restraint is also bad, and I always see that the children are allowed to move about as they like. The child who is really ill will generally lie quite quiet, but the instant he feels well he will want to move about. Children are at all times restless individuals, and one wishes to introduce as few complications as possible into their mode of life at this critical juncture. It is the greatest mistake to tie children down in order to prevent their moving about. They

will not move about if it causes them any harm, and the restraint is almost invariably bad for them.

One generally affixes the dressing by means of a broad piece of strapping encircling the body just tight enough to take all strain off the stitches. This prevents a good deal of the pain, and also prevents any fear of the stitches cutting out and of the abdominal wound being burst open. It also prevents any harm coming to the wound from the child's moving about. It is quite surprising to see a baby sitting up in bed playing with toys some thirty-six hours after an abdominal section; but I am confident that children do much better in this way than they do if they are tied down in bed with sand-bags or straps.

(2) Appendicitis.

Appendicitis does not, as a rule, attack infants, and I have never met with a case under five years of age. It is, however, frequently met with in children over this age. As compared with the same condition in adults, one notices the following peculiarities: the condition is nearly always extremely acute; a gangrenous appendix is much more frequently met with, and probably because of this, general peritonitis more frequently supervenes. The onset of the symptoms is exceedingly rapid, and the patient soon becomes extremely ill. Pus formation occurs early. The condition is very fatal in children if an early diagnosis is not made and treatment carried out promptly. Whatever may be said in favour of the interval operation in adults and of waiting until the acute symptoms have subsided before operating, there is nothing to be said for this in the case of children. If anyone will find a means by which we can look inside a child's abdomen and see the exact condition of the appendix without having to perform an operation, we shall then we able to know in which cases we can leave the patient to recover and in which we must operate at once. As, however, there are no such means at our disposal at present, there is only one course open to us—that is, to operate as early as possible in every case where we meet with acute appendicitis in a child. Admittedly many children will recover without operation; it is equally certain many children will die if not operated upon. It is impossible, even with the utmost care, to distinguish a case of simple catarrhal acute appendicitis from one of gangrenous appendicitis in the early stages. In the later stages a diagnosis is of no importance, as a child with a gangrenous appendix is almost certain to die. My own opinion, founded upon

considerable experience of both practices, is that there is only one course of treatment for cases of acute appendicitis in children, namely, to operate immediately within an hour or two of the diagnosis having been made. Every half-hour wasted after a diagnosis of acute appendicitis has been made in a child is seriously risking that child's life. I would go so far as to say that if every child suffering from acute appendicitis were operated upon within twelve hours of the onset of the disease by a skilled surgeon, under suitable conditions, the mortality from this condition in children would be something in the neighbourhood of ½ per cent. or less. This is no exaggeration, and with such good results there is no object in postponing operation, even though we admit that occasionally it may be unnecessary, when we consider the enormous risk that a mistake means when we are dealing with this condition.

You are probably all familiar with the symptoms of acute appendicitis in a child. I will, however, enumerate them in order to point out those symptoms to which we may attach most importance. The onset is usually sudden, the child being seized with pain in the abdomen, often after food, or after the administration of an aperient. The child seems ill, and sits or lies with the knees drawn up, and resents any attempt to put the legs straight out. He is probably sick, or feels sick; he is flushed, and there may be shivering, the child complaining of cold. The face becomes anxious in appearance. On examination it will be found that the abdomen is more or less rigid; the rigidity may be over the whole abdomen, or it may be confined to the right side. There is tenderness over the situation of the appendix, as evidenced by the child wincing on the least attempt to press in this situation, and in some cases a slight lump may be felt, though this is seldom an early symptom. The pulse will be found to be rapid and the temperature raised. The tongue is often coated, though this is not a very important factor; the child not infrequently complains of headache.

When one sees a child with these symptoms one should immediately consider the question of whether the child is suffering from an acute appendicitis. Such symptoms may, however, result from a great many other conditions in children, and therefore the diagnosis is often a matter of difficulty. Acute colic is not an uncommon condition in chidren, as they are often somewhat gross and ill-advised feeders. The points to attach the most importance to are, in my opinion, the condition of the abdomen and the relation of the pulse to the temperature. If the pulse is raised in excess of what one would expect with the temperature, one should be exceedingly sus-

picious of some intra-abdominal mischief. As a rule, in the early stages of appendicitis in children the temperature is not much raised, the ordinary temperature being from 99° to 100° F. The pulse, however, in such a case will frequently be found to be 120 or 130. This I believe to be a most important diagnostic factor. Further, in a difficult case one should never omit to make a rectal examination. In most children it is easy to pass one's finger high enough to be able to feel the appendix region, and one here has the advantage that there is no abdominal wall intervening to render examination difficult. It will often be found possible to feel a swelling in the situation of the appendix and to elicit pain on pressure in this region when nothing can be felt by the abdomen. I need hardly point out that this must be done with considerable care, as anything like rough examination of the appendix region may easily aggravate the condition.

When once the diagnosis has been made, or a serious suspicion of appendicitis aroused, the only right treatment is immediate operation. If the appendix is immediately removed it will probably be possible to do this through quite a small incision, and the child will almost certainly recover and be out of danger in two or three days. If, on the other hand, the case is left until an abscess forms, even should recovery occur, there is great danger of complications.

There is another point I should like to mention in discussing the symptoms and diagnosis of acute appendicitis in children. One sometimes sees a case in which a child has suddenly developed all the symptoms of an acute appendicitis. The case has been watched for a time, and at last it has been decided that an operation shall be performed. The doctor, perhaps, thinks that he will put it off till his next visit, or he has already arranged for the operation, when on again seeing the child he finds a considerable improvement in the symptoms. The pain and distress have disappeared; the child seems more comfortable; the sickness, previously present, has stopped and the temperature has gone down with a run. This abatement of symptoms often appears to be a matter of congratulation, whereas really it is often the most terrible of traps. What has happened is that the previous tension has been relieved, either by the stretching of a temporary barrier of lymph which had been thrown out from the abscess, or to the giving way of this barrier. As a result the inflammatory material is no longer under tension, and for a short time pain is relieved and the temperature is reduced. If nothing is done at this stage a few hours later the symptoms of acute general peritonitis will slowly develop, and instead of having

to deal with an acute appendicitis one has to deal with the much more serious condition of acute general peritonitis.

The following case, which I saw when I was assisting the late Mr. Herbert Allingham, very much impressed me with the importance and the danger of this train of events.

Mr. Allingham was sent for to go down to one of the London suburbs to operate on a little girl with an acute appendicitis. We went down to the house and were met on the doorstep by the doctor, who informed us that after all our visit would be unnecessary as the child had so much improved. On going up to the room we saw a little girl of about seven sitting up in bed and looking very comfortable, whereas in the early morning she had been sick, had been crying with pain in the abdomen, and had had a temperature of 102° F.; she now said that she felt all right, and was asking for food. Her temperature had gone down suddenly to subnormal. All in the house were congratulating themselves on the fact that the dreaded operation would no longer be necessary. Mr. Allingham examined the patient and discovered that there was a very marked swelling in the right iliac fossa, and that the pulse was 120. He insisted upon performing the operation immediately, and the operation was accordingly carried out. On opening the abdomen he evacuated an abscess containing three ounces of pus in the neighbourhood of the appendix, which itself was completely gangrenous. There can, I think, be no possible doubt that had he been led away by the apparent improvement in symptoms, that child would have been dead instead of being alive at the present day.

I have since frequently seen the same thing happen, and have never had reason to regret that I had insisted on opening the abdomen.

The results of the operation for acute appendicitis in children, when the operation is performed within a few hours of the onset of the symptoms, are exceedingly satisfactory. The important factors in performing the operation are to be as rapid as possible, to handle the intestine very lightly, and to get the child back to bed as soon as possible. I always set myself a maximum period of twenty minutes for the entire operation, and attempt, usually successfully, to complete it in considerably less. The technique should be very simple and involve as little handling of the parts as possible. The abdomen should be closed by a series of through-and-through sutures, as this saves considerable time, which is of much more importance than closing the abdominal wall in layers when dealing with children. Drainage is usually unnecessary, and I personally

never drain the abdomen unless there is an abscess, and not always then.

When, as is too often the case, one only sees the patient when there is already a large abscess or general peritonitis, immediate operation is, of course, the only treatment. Here, however, we have to deal with a very different condition of events. We have no longer to deal with an acute appendicitis, but with an abscess which is either local or general to the whole abdomen. This requires treating like any other abscess, that is to say, by incision and drainage, and the surgeon should not be tempted to do more than this. The patient's recovery depends entirely upon his power of resistance to the extremely acute infection from which he is suffering. The operation, apart from the benefits directly resulting from it, seriously militates against the patient's recovery, and therefore it should be reduced to the simplest possible procedure. The best practice, I am convinced, when dealing with these acute suppurative conditions in children, is to make a small incision, pass one finger into the abscess, pass a drainage-tube down the track, apply the dressings, and send the patient back to bed.

If there is a general peritonitis the only difference is that instead of the introduction of a single drainage-tube a counter-incision is made on the other side of the abdomen, and another drainage-tube introduced right down into the pelvis. This operation should not take more than five minutes. No stitches need be introduced, and the child is got back to bed as quickly as possible.

The patient, under such conditions, should be nursed in a slightly sitting position, usually called Fowler's position, which enables any pus or infective material to drain into the pelvis and away from the more dangerous area of the abdomen near the diaphragm. As a rule it is useless to administer any nourishment, as owing to the shock produced by the acute intra-abdominal condition the digestive functions are temporarily paralysed. Fluid, however, is of the utmost importance, and the child should be encouraged to drink as much as possible. This has a double value: first, it helps to wash away from the blood and tissues the toxins which are being absorbed from the infected area; and secondly, it takes the place for a time of the nourishment which is so necessary in any acute condition in a child. I believe greatly in the value of small doses of brandy, but it is a mistake to administer this so frequently that the child is reduced to a state of semi-drunkenness, which I have often seen happen. The injection of fluid into the rectum is generally the best method, as just after the anæsthetic the child will probably be sick

if the fluid is put into the stomach. The simplest way of introducing fluid in these cases is by passing a small No. 4 Jacques catheter into the rectum and allowing a warm saline solution to flow in continuously from a receptacle, which should be raised not more than a foot above the extremity of the tube in the rectum. Some means must be provided, of course, for keeping the fluid in the receptacle at the correct temperature, which should be about 100° F., so as to allow for cooling during its passage along the tube. If the fluid is allowed to run in too quickly it will almost certainly result in an action of the bowels and an evacuation; if, however, it runs in slowly it will be rapidly absorbed, and there will be no trouble in getting it retained. The fluid should be allowed to run in continuously at the rate of about half a pint to one pint an hour.

As soon as the most acute symptoms have passed off and the child has begun to turn the corner, nourishment should be administered in the form of milk in the case of young children, or of fish, eggs and albumin-water in the case of older children. Broth, beef-tea and the numerous meat extracts which are so frequently used are worse than useless; they are very little better than extracts of toxins and contain about the minimum of nourishment. A dose of castor oil should be given as soon as there is any reasonable prospect of its being kept down. Failing that, calomel or some other smart purge should be administered. In some cases enemata are to be preferred. Lately I have been in the habit of using hypodermic injections of pituitary extract, and this has been attended with great success. About half an ampoule of the extract administered every four to six hours will often make the difference between life and death in one of these cases. It acts by causing peristalsis of the bowel and by increasing the blood-pressure. Usually with the aid of this drug alone the bowels will act almost immediately after the injection.

Every care should be taken in nursing young children with acute abdominal conditions to give them plenty of pure air to breathe, and to see that they have no heavy clothes or blankets which by pressure upon the chest will interfere with free respiration.

(3) Some Forms of Acute Obstruction.

With regard to the other acute abdominal conditions met with in children they are of more pathological than practical interest, except perhaps to the surgeon who has to deal with them. With the exception of intussusception and appendicitis one can seldom make an exact diagnosis as to the cause of the trouble beyond the fact that

there is serious intra-abdominal mischief. The diagnosis of acute intra-abdominal conditions is one of the most difficult factors in surgery. It is fortunately not of very great practical importance. Almost all the acute abdominal lesions necessitate an operation, and if we can diagnose acute intestinal obstruction in the abdomen it is all we are called upon to do. None of these conditions can be adequately treated without operation, and all we have to decide is that an operation is necessary or otherwise.

There are numerous other causes of obstruction. Among the rare forms may be mentioned congenital dilatation of the colon, which is often first seen when the patient is suffering from acute intestinal obstruction. There will, however, always be a very marked history of exceptionally severe constipation from earliest infancy, and the passage of a finger into the rectum will immediately clear up the diagnosis, for in such a case it feels exactly as if the finger had been passed into the abdominal cavity. Internal hernia is occasionally met with. Cases of strangulation by Meckel's diverticulum, by a band or by a tubercular gland, etc., are seen from time to time in a children's hospital. I have even operated upon a child for such an out-of-the-way purpose as hunting for a tin soldier in the deep parts of the abdomen. I am sorry to say the tin soldier eluded me, and, to the best of my knowledge, is still reposing in the nethermost depths of that child's abdomen, without, however, causing him any apparent inconvenience.

Time will not allow me to do more than mention many of the other acute abdominal conditions which are met with in the practice of a large children's hospital. Cases of both chronic and acute obstruction due to tubercular disease of the bowel are sometimes seen. Pneumococcal peritonitis is one of those rare conditions we sometimes meet with, and one which is very difficult to diagnose apart from operation. Should it be diagnosed, however, I believe the best practice is not to operate. Gonorrhœal peritonitis I have certainly met with once, but it may be looked upon as quite unusual.

In conclusion, I should like to insist once more upon the importance of regarding all acute abdominal symptoms in children as requiring the most serious consideration ; and, where a serious intra-abdominal lesion is diagnosed or suspected, upon the necessity for operating as soon as possible.

FLAGELLATE DYSENTERY IN CHILDREN.

By Mello-Leitão, M.D.,
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Dysentery, which used to be described as a single disease, is nowadays regarded as a syndrome due to a variety of animal and vegetable parasites.

Prof. Olinto de Oliveira classifies dysentery and dysenteric enteritis as follows: (1) Dysentery due to bacilli. (2) Follicular colitis and entero-colitis which are seldom primary but usually secondary to inflammatory lesions of the bowel. (3) Muco-membranous entero-colitis. (4) Sporadic cases due to rectal polypus, hæmorrhoids, irritation caused by foreign bodies, ankylostomiasis, *Anguillula stercoralis* and *Balantidium coli*. (5) Amœbic dysentery.

Prof. Olinto does not mention flagellates as a cause of primary dysentery. He mentions, however, the frequent occurrence of flagellates in amœbic dysentery, and states that in chronic forms of this disease the *Trichomonas intestinalis* is so frequently associated with amœbæ that one is seldom found without the other.

Castellani and Chalmers classify dysentery and dysenteric diarrhœa as follows:

A. Dysenteries caused by animal parasites: (1) Protozoa, (2) Platyhelminthes, (3) Nemathelminthes, (4) Arthropoda. B. Dysenteries caused by bacteria. C. Pseudo-dysenteries, *i. e.* disorders due to irritation by fish-bones, glass, cancer, or to inflammation of adjacent organs. The protozoal dysenteries are subdivided into entamœbic, Laveramic, Leishmanic, and ciliate. The writers refuse to recognise a clinical flagellate dysentery, as is shown by the following quotation: "It is convenient to describe as an appendix to these dysenteries the diarrhœas said to be due to flagellate organisms, though these can in no way clinically be termed dysentery."

The only forms of dysentery which have received much attention are entamœbic dysentery and bacillary dysentery. Ciliar dysentery was described in 1857 by Malmsten, who found infusoria in a man of 35 suffering from diarrhœa whose stools contained blood and pus and numerous *balantidia*.

When Schaudinn demonstrated the pathogenicity of *Entamœba histolytica* in tropical dysentery, and Shiga, Kruse and Flexner showed bacilli to be the cause of tropical dysentery, the existence of ciliar dysentery was denied. Solowjew, however, in 1901 found

ciliate organisms in cases of dysentery, and described them as penetrating the bowel-wall and giving rise to ulceration, which might extend deeply into the subserosa. He had also seen them in the blood and lymphatic vessels of the intestinal wall. His observations were subsequently confirmed by Strong and Musgrave, Askanazy, and Robin. In 1905 Koslowsky mentioned ciliata as a primary cause of dysentery, and in 1907 Rheindorf published his careful researches, in which he isolated ciliar dysentery as an autonomous disease.

Papers on the pathogenicity of flagellates are less numerous. In 1859 Lambl was the first to describe a flagellate protozoon in the mucous stools of children, but he did not attribute to it any pathogenic importance.

Kruse and Pasquale in their investigations on dysentery reported the presence of *Lamblia intestinalis* and *Cercomonas hominis* in dysenteric stools. Reports on the cercomonas are also to be found in papers by Massiutin, Fenoglio, Zuncker, and Quincke and Roos. Councilman and Laflen found numerous *cercomonades* in the mucous evacuations of chronic amœbic dysentery, and Roos describes an infusorial diarrhœa due mainly to *Cercomonas hominis*. All these researches, however, were carried out in adults. Cahen observed typical *cercomonades* in the motions of healthy and sick children. An interesting observation on the *trichomonas* is published by Epstein. In a room in his clinic occupied by four children, three who drank some water in addition to their ordinary diet fell ill with *trichomonas* diarrhœa, whereas the fourth child who did not have any water remained well. But when this child had been given 500 c.c. of the same water as the other children had drunk he also suffered from diarrhœa. In Epstein's cases the stools were only liquid and did not contain mucus or blood.

Frshezjesski regards *Lamblia intestinalis* (*Megastoma entericum*) as the primary cause of chronic intestinal catarrh with dysenteric motions. Jacksh, who found *Lamblia* in children's stools, denies them a pathogenic *rôle*, as do also Kruse and Pasquale. Olinto de Oliveira, who has frequently found *trichomonas* and *Lamblia* and on two occasions *cercomonas* in the sanguineous purulent stools of chronic dysentery, denies these flagellates any importance. A new flagellate was described by Bell in 1909 under the name of *Cercomonas dysenteriæ* as the cause of a form of dysentery.

In the Children's Hospital Dispensary of Rio de Janerio we have personally observed fifty-four cases of dysenteric diseases. In the stools which were examined at the hospital laboratory flagellates were found in thirty-two cases, and *Entamœba tetragena* in four cases.

In 2135 stools encysted forms of *trichomonas* were found only five times in healthy children, all over four years of age, and twice in non-dysenteric enteritis in children above two years of age. We regard the presence of flagellates in dysenteric stools as more than a mere coincidence for the following reasons: (1) Flagellates were never found in children under four years without there being enteritis, and the diarrhœa was always dysenteric in the children who were under two years.

In the cases of dysentery with flagellates present in the motions, as soon as the flagellates disappeared improvement took place and disappearance of the cysts indicated recovery.

To determine whether the flagellate—in almost all our cases it was the *trichomonas*—had entirely disappeared and was not persisting in the intestine, though absent in the stools, we gave a cathartic to seven cases who had recovered, and carefully investigated the liquid stools with or without centrifugalisation, but were unable to find the flagellates or their cysts.

Before giving a clinical description of flagellate dysentery we will say a few words on other protozoal dysenteries in children. Amœbic dysentery, which is the clinical expression of infection by *Entamœba histotylica* (Schaudinn), *Entamœba tetragena* (Viereck) or *Entamœba minuta* (Elmassian) is uncommon in childhood.

Before Schaudinn had shown that there were two forms of amœbæ quite distinct from one another—viz. an *Entamœba coli*, which was harmless, and another, *Entamœba histolytica*, which was the true cause of entamœbic dysentery, the following had published papers on amœbæ in infants' stools: Pfeiffer (1891), Epstein (1893) on five cases, Harris (1898) on four cases, Amberg (1901) on five cases in children from two to five years old. The ages of the 102 children reported by Olinto de Oliviera were as follows: Under one year, none; 1–2 years, five cases; 2–5 years, fifty-three; 6–10 years, thirty; 10–15, fourteen cases. The youngest case was in a child fourteen months old.

Our four cases were children aged fifteen months, twenty months, five years and seven years respectively, and all showed *Entamœba tetragena*, which is commoner in Brazil than *Entamœba histolytica*.

Ciliar dysentery is, perhaps, more uncommon in childhood than amœbic dysentery. Olinto de Oliveira found *balantidia* only twice in dysenteric stools; Rheindorf (1907) also reports a few cases. Pathogenic ciliata are all *heterotricha*, and consist of *Balantidium coli* (Malmsten), *Balantidium minutum* (Schaudinn), *Nyctotherus faba* (Schaudinn) and *Nyctotherus giganteus* (Krause). Some holo-

tricha have also been found in the dysenteric stools of adults—viz. *Chilodon dentatus*, *Chilodon incimatus* and *Colpoda cucullus*. Ciliar dysentery-like amœbæ is occasionally fatal. Post mortem ciliates are found in necrotic patches in the submucosa and in enlarged lympathic vessels (Rheindorf).

Flagellate dysentery is the commonest variety of infantile dysentery, and is rather more frequent in children under five years than in adults. The flagellates most commonly found in the stools are *Trichomonas intestinalis* (Leuckart), *Lamblia intestinalis* and *Cercomonas hominis*. Martini has reported some cases of diarrhœa due to a new flagellate *Prowazekia Cruzi* (Hartmann and Chagas), but in our cases the *trichomonas* and *lamblia* only were found.

Trichomonas intestinalis, Leuckart—*Cercomonas hominis*, Davaine, 1854; *Cercomonas intestinalis*, Lambl, 1875; *Protoryxomyces coprinarius*, Cunningham, 1881; *Monocercomonas hominis*, Grassi, 1882; *Cimœnomonas hominis*, Grassi, 1882; *Trichomonas hominis*, Grassi, 1888; *Cercomonas coli hominis*, May, 1891; *Monocercomonas hominis*, Epstein, 1893, believed by several authors to be identical with *Trichomonas vaginalis* (Donné)—is a pear-shaped flagellate, with a breadth of from 18 to 25 μ, with three flagella at its broadest end, and an undulating membrane. The cytoplasm contains a rather indistinct nucleus, and one or several non-pulsating vacuoles. The parasites are very abundant in mucous stools, and are sometimes encysted.

Lamblia intestinalis, Lambl.—*Cercomonas intestinalis*, Lambl, 1859; *Hexamitus duodenalis*, Davaine, 1875; *Dimorphus muris*, Grassi, 1879; *Megastoma entericum*, Grassi, 1881; *Megastoma intestinale*, Blanchard, 1886—is a pear-shaped flagellate 10 to 21 μ in length and 5 to 13 μ in breadth; flagella of about equal length, (9 to 14 μ). "The body is finely granular and has a very thin cuticle, which does not entirely prevent changes of form of the body; the very motile tail-like appendix in the frontal plane is flattened. The excavation at the anterior extremity, which is directed obliquely forward and with its border projecting backwards and interrupted, no doubt corresponds to the peristoma and serves as a clinging organ. The first pair of flagella (anterior flagella) arise from its anterior edge, the second and third pairs (lateral and median flagella) from the posterior edge, whereas the tail flagella are inserted at the posterior end of the tail. In life the anterior and lateral flagella sway only with the thinner part projecting beyond the body; in the rest of their course they appear to be almost attached to the body; the median and tail flagella are quite free.

There are knob-like formations at their origin. The entire flagellate apparatus appears to be connected with the nucleus. The nucleus is of a dumb-bell shape, has a nucleolus in each half, and lies anteriorly in that part of the body that is excavated. Division forms have not been observed, but there are encysted stages. The oval cysts measure 10 μ in length by 7 μ in breadth, they are surrounded by a fairly thick hyaline layer, through which the contour of the creature can sometimes be seen quite distinctly" (Max Braun).

Numerous *lambliæ* are found in dysenteric motions. In thirty-two cases of flagellate dysentery which we observed *lamblia* and *trichomonas* were present as follows: *Trichomonas intestinalis* in 9 cases; *Lamblia intestinalis* in 3 cases; *Trichomonas* plus *Lamblia* in 20 cases. In five cases with flagellates and no bowel trouble *trichomonas* only was present; of the cases of enteritis without dysenteric motions, one showed *trichomonas* only and another *lamblia* only. The ages of our cases of flagellate dysentery are as follows:

Under 1 year, 7 cases; 1 to 2 years, 8 cases; 2 to 4 years, 9 cases; over 4 years, 7 cases.

Flagellate dysentery is thus not uncommon in infancy; the youngest case was a little girl aged 2 months and breast-fed. It is interesting to compare our figures with those of Olinto de Oliveira.

Age.	Flagellate dysentery. Mello-Leitão.	Amœbic dysentery. Olinto de Oliveira
Under 1 year	7 (21·8 per cent.)	0 (0 per cent.)
1– 2 „	8 (25 „)	5 (4·9 „)
2– 5 „	12 (37·5 „)	53 (51·9 „)
6–10 years	5 (15·5 „)	30 (29·4 „)

In order to show the pathogenicity of flagellates in children's dysenteries, we give below the occurrence of flagellate dysentery and also of dysenteries without flagellates or amœbæ as well as the occurrence of flagellates in healthy children.

Age.	Flagellate dysentery.	Other dysenteries.	Flagellates in health.	Notes.
Under 1 year	7 cases	4 cases	0 cases	—
1– 2 years	8 „	6 „	0 „	—
2– 3 „	5 „	4 „	1 „	Enteritis
3– 4 „	4 „	1 „	1 „	Diarrhœa
4– 5 „	2 „	0 „	0 „	—
5– 6 „	1 „	1 „	1 „	—
6– 7 „	2 „	1 „	1 „	—
7– 9 „	1 „	0 „	2 „	—
9–12 „	2 „	1 „	2 „	—

Sex has no influence in flagellate dysentery ; 17 of our cases occurred in boys and 15 in girls. Flagellate dysentery is more frequent at the end of summer and in the first months of autumn. Of our 32 cases, 6 occurred in March, 5 in April, and 10 in May ; the other 11 cases occurred irregularly in the remaining months of the year.

The onset is, as a rule, not abrupt, but is preceded for a day by diarrhœa with fæcal motions, and by fever. The next day the stools contain mucus and blood and become dysenteric. Free flagellates are then abundant in the evacuations. The motions rarely exceed twenty *per diem* ; the greatest number of motions which we observed was twenty-two in the twenty-four hours. They always contain only a little blood and an excess of mucus. We never observed griping or straining accompanying defæcation. The tongue is moist and seldom coated with white fur. There is no vomiting. Though flagellate dysentery is most frequent in infants that have been weaned we have observed it in the breast-fed.

The circulatory and respiratory systems show no abnormality. The urine is dimished in quantity, is yellow-reddish or brownish in colour, and sometimes contains albumin and hyaline casts.

The motions, which at first are bloody, become muco-purulent on the third or fourth day. As recovery takes place they become less frequent and more fæculent and contain less mucus, and gradually improve until they become quite normal. Flagellates become encysted and at last disappear. The disease is always of an acute type, and is easily cured : it never lasts longer than three weeks, its course being as a rule from six to eight days. The prognosis is good. Only one of our cases died—a marasmic girl, aged 16 months.

A diagnosis between flagellate and other dysenteries by the clinical phenomena only is impossible in most cases, but very easy by microscopic examination of the stools.

Treatment is simple ; magnesium sulphate (7 per cent.) and water diet (in infants under two years) or milk (over two years) will be efficacious in most cases. Sometimes, however, enemata of collargol (1 per cent.) or electrargol are required.

Summary.

(1) To the other forms of dysentery a primary flagellate dysentery is to be added.

(2) Flagellate dysentery is due to *Trichomonas intestinalis* (Leuckart) and *Lamblia intestinalis* (Lambl.), either separately or in combination.

(3) Flagellate dysentery is a benign disease, and the most frequent form of dysentery in infants.

(4) *Trichomonas* and *lamblia* are pathogenic to infants under three years.

(5) Flagellate dysentery does not depend on the infant's diet.

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A CASE OF FATAL HÆMORRHAGE FROM THE THROAT.*

By J. D. Rolleston, M.D.,

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A girl, aged 6 years, was admitted to hospital on October the 22nd, certified to be suffering from diphtheria. Beyond an attack of whooping-cough at the age of three years she had until recently been a healthy child, and there was no family history of bleeding.

* Specimens of the case were shown at the Section for the Study of Disease in Children of the Royal Society of Medicine, on November the 22nd, 1912.

Five weeks before admission she had had measles, since when her voice had been husky. On October the 20th she complained of sore throat, and on the 22nd she had a croupy cough and the neck glands became swollen.

Condition on admission.—Deposit on both tonsils and uvula, slight nasal discharge, voice husky, stridor, croupy cough and dysphagia, Temperature 100° F. 16,000 units of diphtheria antitoxin given.

October the 23rd.—Deposit clearing away, leaving marked ulceration of tonsils and uvula. No fœtor. No Vincent's organisms found in the throat smear. Temperature 103° to 100° F.

October the 24th.—Dysphagia less. Temperature 102·4° to 99° F.

October the 25th.—At 9 a.m. she suddenly gave a cough and a huge gush of blood poured out of the mouth. Death preceded by marked cyanosis occurred within five minutes.

No diphtheria bacilli but only cocci were found in three successive cultures from the throat and one from the nose.

Necropsy: October the 26th.—Abscess cavities in both tonsils, ulceration of the uvula, soft palate, epiglottis, frænum epiglottidis, vallecullæ, and ary-epiglottidean folds. Deep ulceration of laryngeal portion of pharynx exposing muscular tissue. Three small superficial ulcers above right vocal cord. The exact site of the bleeding vessel was not determined, but there was no evidence of erosion of external carotid, internal carotid or internal jugular, nor of any glandular abscess.

Apart from its occurrence in connection with tracheotomy death from asphyxia caused by entrance of blood into the air-passages is so uncommon in children that the present case is one of unusual interest. A few cases of fatal hæmoptysis in young children from pulmonary tuberculosis or gangrene have been recorded (Meusnier, Magruder), but there was no evidence of either disease in the present case. Erosion of the neck vessels giving rise to fatal hæmorrhage is a very rare occurrence, and practically occurs in only two conditions—scarlet fever and gangrenous angina. In scarlet fever erosion of the external carotid has been recorded by Baader, Huber, Oppikofer, Griffiths and Riddell, of the lingual artery by Ghon and Oppikofer, and of the internal jugular vein by Henoch, and Griffiths and Riddell. Hecker has recently published a case in which, as in my own case, the bleeding vessel was not discovered, but the branches of the superior thyroid artery or the tributaries of the internal jugular vein were regarded as the probable source of the hæmorrhage.

Mr. A. R. Tweedy showed a specimen at the Laryngological

Section of the Royal Society of Medicine on November the 1st, 1912, of ulceration of the internal carotid in a child, aged 1 year and 8 months, following a sore throat, which may possibly have been of scarlatinal origin, especially as the patient's brother had previously had some swollen submaxillary glands.

In cases of this kind the fatal hæmorrhage may occur spontaneously, as in the present case, or be due to opening a hæmatoma under the mistaken belief that it was a tonsillar or cervical abscess, as in cases reported by Huber and by Griffiths and Riddell. This mistake is all the more likely to be made as suppurative cervical adenitis may occur at any period of scarlet fever, and in some cases the erosion of the vessel is secondary to a cervical abscess or cellulitis.

There was no history or evidence of scarlet fever in my own case, but it is highly probable that the pharynx and larynx were predisposed to infection by the recent attack of measles, especially as the child's voice was still husky when the fatal illness began.

Death from pharyngeal hæmorrhage may also be one of the terminations of gangrenous angina, which may be either a primary condition or be secondary to other diseases besides scarlet fever. My own case, however, did not show the fœtor and prostration characteristic of this disease, nor the clinical and bacteriological features of the closely allied condition, Vincent's angina.

It should rather be regarded as an instance of ulcerative sore throat to which the name pseudo-diphtheria is sometimes applied (Welch and Schamberg). This form of sore throat is usually due to streptococci, is often accompanied by laryngeal involvement, especially when it is secondary to measles, and frequently runs a severe course. Thus of thirty-five cases recently reported by Dr. Goodall twenty-five were fatal. In nine of his cases the larynx was involved, though the principal lesions, as in my case, were in the pharynx, and two had recently had measles. In none, however, was death due to sudden hæmorrhage from the throat. The bleeding vessel in the present case was not determined, and, as I was not present when it occurred, I am not prepared to say whether the hæmorrhage was venous or arterial. It is probable, however, that the laryngeal portion of the pharynx in which the ulceration is deepest was the site of the hæmorrhage.

Before making the post-mortem examination, I thought that death might have been due to erosion of the internal or external carotid or internal jugular. These vessels, however, were found to be intact. The internal organs, moreover, were not blanched as in death due to

hæmorrhage, but engorged, and the blood in the bronchi and lungs, the acute vesicular emphysema and distended right heart showed that death had been due to asphyxia. Further, after opening of a large vessel, death usually occurs within a minute, whereas in death from asphyxia due to erosion of a smaller vessel, the agony is more protracted.

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Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, December the 13th, 1912.

Mr. A. H. Tubby, *President, in the Chair.*

DISCUSSION ON THE TREATMENT OF HEART DISEASE IN CHILDREN.

Dr. Edmund Cautley said that reference to the standard works of twenty-five to thirty-five years ago showed that the recognition of the frequency of heart disease in children was of comparatively recent origin. Modern methods of treatment were a survival, a modification, and an

improvement on those of the past. Especially, the improvement depended on the recognition of myocarditis and its results. To some extent treatment was modified by age, for in childhood the heart was a growing organ. The degenerative changes consequent on age, alcoholism, syphilis and renal disease were extremely rare. Functional disorders were comparatively unimportant. In many so-called functional cases the primary cause was myocarditis, a sequel of infective disease.

Rest was the most important factor in treatment. Its duration must be in proportion to the degree of dilatation dependent on myocardial disease. It was important during rapid growth and in cardiac disorders at puberty, periods at which overstrain must be carefully avoided. The duration of rest differed in endocarditis, myocarditis, and pericarditis; it was most prolonged in myocarditis. Subsequently massage and exercises, passive and active, were useful. Nauheim methods and electro-therapeutics must be considered.

In acute inflammations, the older methods of bleeding, blistering and mercurialisation were still used in a modified form. Blistering was of doubtful value in endocarditis and myocarditis, but appeared distinctly beneficial in pericarditis. Bleeding was used with caution. Mercury was of value if the liver became congested. The pill of digitalis, squill, and mercury had not been improved upon. Purgation was necessary in œdema and backward pressure; and in all cases the bowels should be kept open by mild laxatives, such as senna. Diuretics were also needed, and their action could be assisted by dry-cupping over the kidneys. Attention was paid to diet in acute inflammations and in cardiac failure; to the limitation of fluid and salts in œdematous states; and to the ordinary diet of compensated valvular disease.

In the matter of drugs, the value of digitalis and its modern laboratory preparation was referred to. Formerly, the infusion was thought the most valuable; now, opinion was in favour of the tincture; whilst some preferred digalen, digitalin, or digitalone. Diuretin and theocin sodium acetate were comparatively modern drugs. Vaso-dilators were practically never required. Morphia, aconite and belladonna might be of value. The value of salicylates in myocarditis and of iodides in inflammation was open to discussion. In pericardial affections the use of paracentesis and of drainage was considered, as well as the more recent operation of cardiectasis for adherent pericardium.

Dr. James Mackenzie dealt with some manifestations of a healthy heart in the young, which were frequently taken as indications for treatment. He said that as a first step to treatment it was necessary to have a clear idea of what we were going to treat, and the significance of this was brought out by considering what was the essential purpose of a medical examination. This was to determine the prognostic significance of certain phenomena and their bearing on the presence or likelihood of heart failure. It was shown that this purpose frequently failed in dealing with such phenomena as irregular action of the heart and murmurs. The absence of reliable data had hitherto militated against the obtaining of a prognosis based on trustworthy grounds, or a basis for an intelligent therapy.

A description was given of the means by which this deficiency could be made good, and was illustrated by recent observations on the mechanism by which certain irregularities were produced, and their prognostic significance. The bearing of a functional murmur on the heart's efficiency was discussed, and it was shown that certain irregularities and functional murmurs were

perfectly compatible with healthy hearts. The relation of functional murmurs to heart failure was considered, and attention was drawn to the fact that the cause of the murmur was not the cause of the heart failure, but that the heart failure was invariably due to the impairment of the heart muscle. The means by which impairment of the heart muscle could be detected was shown in many cases to depend not so much on the physical signs, as upon the due appreciation of the functional efficiency of the heart muscle. The signs by which we could recognise the functional efficiency of the heart had not received that consideration which was their due, and it was on this account, and also on account of the imperfect teaching of cardiac symptomatology, that a mistaken conception of the meaning of these phenomena was so wide-spread. Evidence of these misconceptions drawn from personal experience were offered, showing how normal phenomena had been taken as indications for treatment, and as a consequence how cardiac therapy had become burdened by many useless drugs and methods.

Sir James Goodhart said it would be impossible to express his own feelings on the subject of the debate better than Dr. Mackenzie had just expressed them. As he had had forty years of examining these cases he felt he had a right to venture an opinion. On one point he was not inclined to agree with Dr. Cautley. He understood Dr. Cautley to say that he did not think functional disease in childhood was common, but he (Sir James Goodhart) was there to say that if he had estimated heart conditions aright, he saw many more cases which were said to be heart disease in children in whom there was nothing the matter than he saw of heart cases in which there was something the matter. And the reason was, as Dr. Cautley said, that though bad heart cases were recognised at once, there were a large number of borderland cases in reference to murmurs which were thrown into the limbo of diseased hearts, but in which there was no disease whatever. He had recently been consulted about a delicate child who had suddenly fainted after going to church and being somewhat excited. The child was put to bed and condemned to remain there without being allowed to move for weeks. But there was nothing the matter with her. After recovering from her faint the heart was quite regular. The apex beat might be in a different position from the normal, but in children it varied enormously. Like Dr. Mackenzie, he had had a large amount of unpleasant correspondence with various medical men in regard to this condition. The consulting physician was placed in a difficult position, for a patient came to him and said, "Dr. So-and-So says there is heart disease," but the consultant thought there was no heart disease. In such a fix somebody had to be sacrificed, and the public would regard the consultant as either a very wise man or a fool. The fact was that the man in general practice did not take time to ponder his diagnosis; because the patient had fainted he was apt to say it was heart disease; the patient was put to bed and compelled to remain there without the matter having been properly thought out. He pleaded for more time to be taken over the diagnosis; for in these hurried diagnoses somebody's reputation had to suffer. The treatment of all these cases was largely a matter of rest, and the crux of the treatment was to know how much rest was required; for even in cases of definite advanced heart disease there could be too much rest. The patient should be allowed to get up as early as possible under careful watching. Even in the case of children with heart disease one could order too much rest.

Dr. John Hay said that whatever views were held as to the organism

causing rheumatism, most would agree that it was an infective process by an organism, probably related to the streptococcic group, and he believed it took place in childhood. So that the outstanding difference between the treatment of heart disease in children and in adults seemed to be that in children one was dealing with an infective process in its inception; while in adults one was dealing rather with the effects of that infection, such as the sclerosis and the myocardial changes. Therefore, the prophylactic treatment was an aspect which needed emphasising. The treatment in the active stage and during the subsequent "slumbering infection" varied by exacerbations made all the difference to the future life of the individual. From five or six years onward rheumatic disease was one of the most fatal of illnesses, and he did not think prophylaxis had been been sufficiently insisted on by the two openers. In order for prophylaxis to be efficient it was necessary to have clear ideas, as far as they were possible on such a subject, as to rheumatic auto-infection, and the idea was gaining ground that the portal of entry of the infecting organisms was the naso-pharynx—an idea which was supported by a recent paper in the 'British Medical Journal.' He suggested that when a child showed any evidence of rheumatism the naso-pharynx should be persistently treated from that standpoint, parents being persuaded to bring the child as regularly for that as for adenoids. If this were done he felt sure more children would be enabled to reach maturity. The practitioner should be on the look-out for peevishness and fractiousness and anæmia, with "growing pains" about the child. The course he recommended was now easier owing to the systematic examination of school-children, and the radical attention being given to the tonsillar condition would probably bear good fruit in the future. With regard to the doubtful cases, one felt that the occurrence of arrhythmia had been misunderstood when combined with pallor and slight faintness. The medical man took the grave view, for it was the unknown which was feared. Many forms of arrhythmia could be recognised without the polygraph. The pulsus alternans could be recognised in the ordinary taking of the blood-pressure, for a point was noticed at which the smaller beats ceased to reach the wrist. Until the full meaning of these arrhythmias was understood one should not attribute too much significance to the slighter murmurs which were heard; then there would be fewer persons leading miserable lives as condemned examples of cardiac disease. With regard to dilatation and varying size of the normal heart, there was one good rule which he had found helpful in the case of a child suffering from rheumatism, or diphtheria, or influenza. On the first occasion of seeing the child he marked out on the chest-wall with silver nitrate the left and right limits of dulness; this mark persisted for the ensuing few weeks, and formed a real test of what was taking place in regard to alterations of size and position. In diphtheria one might find a rapid increase to the left. For pericarditis prolonged rest had been mentioned; and the late Dr. Barnard also mentioned the necessity of increased rest after pericarditis, because the softening of the pericardium had interfered with one of its functions, that of restraining sudden dilatation of the ventricles following on too early exercise after the illness. It would be agreed that the chief indication for paracentesis was dyspnœa. In rheumatic cases the occurrence of fluid was rare. He would like to hear the opinion of those present as to the value of alcohol in the treatment of these children. A Viennese professor said that alcohol should be excluded from the pharmacopœia of children, and he, the speaker, would like to hear what evidence there was that alcohol was actually a cardiac stimulant. It had a

short temporary action as a carminative, but his impression was that it was not a true cardiac stimulant.

Dr. J. Walter Carr limited his remarks to the treatment of acute rheumatic affections of the heart in children, especially as the treatment of chronic heart disease in children did not differ materially from the treatment of that in adults. His experience was drawn mainly from cases in hospital wards, in which functional diseases were not usually met with. Dr. Mackenzie and Sir James Goodhart saw patients in a different social position, and so they encountered these functional states. He had little to add to or criticise in what Dr. Cautley said. There should be rest first and foremost, of duration proportioned to the rapidity of the pulse and the degree of carditis present. The rest should be more prolonged if there was pericarditis as well as myocarditis and endocarditis, and most prolonged where there were nodules, because they pointed to a myocarditis in very aggravated degree. But in any case in which one was dealing with rheumatic trouble in the heart one must assume that myocarditis was practically invariably present. His experience with regard to salicylates was similar to Dr. Cautley's. Repeatedly he had seen, in patients who were taking salicylate of soda, relapses of cardiac rheumatism occur, and the supervention of pericarditis. A few weeks ago a child, aged 9 years, came in with an acute rheumatic attack, and under the administration of salicylate of soda there was rapid improvement, and the temperature sank to normal. The boy was continued on 50 gr. per day and kept at rest, but after the temperature had been normal a week acute pericarditis supervened. He could recall many similar occurrences. He had seldom tried the heroic doses which Dr. Lees favoured, but in the one or two cases in which he did the cardiac weakness developed so rapidly that he was thankful to get down to smaller doses. He had many times tried the treatment with which the name of Dr. Richard Caton, of Liverpool, was associated, that of prolonged rest, with blistering over the præcordium, and moderate but prolonged doses of iodide; but, like Dr. Cautley, he had not seen any marked benefit from it beyond what he had seen resulting from rest alone. He used the ice-bag generally in acute pericarditis, and it often gave some relief. If the child liked it he persevered with it; but if not he gave it up. Paracentesis pericardii for all practical purposes was never required in rheumatic pericarditis. In convalescence, though the patient was anæmic and iron seemed to be indicated, it frequently disagreed with the patient, and it seemed to favour the tendency to relapse. With regard to digitalis in these cases, he knew of no more valuable aphorism in Dr. Mackenzie's writings than that in which he said that digitalis was useless when the heart was in the grip of a toxin. He (Dr. Carr) realised that so much that he practically never used it in the acute or the subacute stages; he had never seen it do good then, or slow a rapidly acting heart; therefore it was likely to be harmful rather than beneficial. But there was one food which he accidentally found to be beneficial in the convalescent stage—namely, pure cod-liver oil; not in the dilute form it assumed when combined with malt and other things. He gave it in doses of half a drachm, increased to a drachm, two or three times a day. Children took it very well, and he had seldom seen it disagree. Massage and regulated movements he had tried in some cases, but he had seldom been able to trace to them marked beneficial results. To summarise, it must be admitted that to a large extent, until there was available an effective anti-rheumatic vaccine, the treatment of these conditions was palliative, and in a few there was little or no improvement; the child went

steadily from bad to worse, there were successive relapses, and finally death supervened. Fortunately, in most cases temporary or steady improvement occurred, tempered from time to time by a tendency to relapse. Though almost invariably a mitral murmur was left there was often very little dilatation, and the child left the hospital with comparatively little damage to the heart, and its prospects in life were not seriously impaired. But in order to achieve these favourable results early treatment was essential.

Dr. G. A. Sutherland said that, with regard to signs found in functional disturbance on physical examination, it was important to recognise that many of those symptoms which were frequently associated with heart disease were very common in children apart from the existence of heart disease, viz. breathlessness on exertion, palpitation, fainting, præcordial pain, and distress. Those were commonly regarded by the lay public as indications of heart disease, and not infrequently the medical attendant found it a convenient diagnosis to make. But in most cases those signs were not due to heart disease, but to a part of the anatomy which the pure cardiologist had not recognised, namely, the central nervous system. With regard to acute heart disease, the most important factor in treatment was rest. In addition to that, he did not think it mattered whether blistering, or painting, or hot fomentations, or cold applications were used. Dr. Mackenzie now and in his previous writings had brought out the very important point with regard to organic heart disease that one should not lay so much stress on the physical conditions found. With regard to adults, he believed that statement held good in most cases, and the point which Dr. Mackenzie emphasised was of the very greatest importance. But in the case of children some qualification must be made, for in most children after the carditis or valvulitis (*i. e.* the active condition) settled down the mischief was done, and as a rule there were no symptoms left. The symptoms did not usually develop until much later in life. The child with such a damaged heart might pass through adolescence without symptoms, as they did not appear until later. Thus, if prognosis and treatment in such cases were to be based upon the symptomatology, there would be but little to go upon. Much was to be learned from physicial examination of the heart. It was by that alone, in many cases in children, that the heart condition could be determined. Dr. Mackenzie had entered a protest against the treatment of certain cardiac irregularities, and he (Dr. Sutherland) wished to protest against the treatment of hearts of children in whom the whole activity of the disease had passed off, leaving no symptoms. Those who were seeing the class of children attending public elementary schools knew how often the child was referred to someone because it was found that the heart was affected and some treatment was supposed to be necessary. In the absence of symptoms no direct heart treatment was required, but treatment was needed, as Dr. Cautley mentioned, to prevent the further rheumatic infection and prevent strain on the heart. If the child went about taking exercise in its own way it would not strain its heart; but if ordered to do certain exercises which were carried out by ordinary healthy children the heart would suffer.

Dr. Alexander Morison said that digitalis used in any febrile condition failed to have any influence in checking the rapidity of the heart's action. But, no doubt because of the traditional dread of the consequences of the use of the drug, opium was not pushed as it should be in these cases. Owing to the constitutional excitement in a child one found a sort of pathological belladonnaism—a quick pulse, dilated capillaries, a dilated pupil,

and a standing physiological antidote to over-dosage by opium. As a rule, too little opium was given in the treatment of acute heart disease, properly so called, and the dread of it was greater than was justified. With regard to the chronic conditions, much depended on whether the heart was influenced by its surroundings. In the condition of cardiac infantilism one found a patient aged fifteen or sixteen with the development of a child of ten or eleven years of age. The child was very anæmic, undergrown, puberty was delayed, and after death he had found the thyroid gland atrophic. For that reason it had been his custom to give these children thyroid in the expectation that the long-continued labouring heart would thereby have its activity diminished and its power thus conserved. There was an exhaustion of that gland in consequence of the labour it had had to deal with. His experience of cardiectasis, which was practised for the relief of these cases, had not been very rosy. His most successful case was that of a young man who had come under his care in his "teens," and was much relieved by removal of ribs to give more space for the heart. He did well for four years, and then had an opportunity of going to a convalescent home; but in six weeks he came back to hospital with manifestations of infective endocarditis, and died in a month. His pericardium was totally adherent to his skin flap. So long as there was no drag on it, adhesion of the pericardium to the skin flap was innocuous. Another case was that of a boy who was operated upon for costo-pericardial and visceral adhesions. He lived for three months and was apparently relieved by the operation; but he then had pericarditis and died. Another child, the subject of cardiac infantilism, had an adherent heart; it got over the operation and seemed comfortable, but went back to bed and died with a clot in the pulmonary artery. Probably the principle was right, however.

Dr. C. W. Chapman, Dr. F. W. Price, and Dr. W. Bezly Thorne also too part in the discussion.

Dr. Cautley, in reply, said that in regard to the remarks he made in the paper as to the infrequency of heart disease of a functional nature in children, the views taken by Dr. Mackenzie and Sir James Goodhart in opposition to his own seemed to be based upon heart affections not exactly in children, but in adolescents. In his experience functional heart disease —not mere irregularities due to alterations in respiration—was distinctly uncommon. Many of the cases of so-called functional heart disease in children had a myocardial origin and some infective disorder, and must be treated by means of prolonged rest. He did not mean that irregularities of the heart were not met with in children, or functional murmurs. Sir James Goodhart's remarks seemed to imply—though he knew he did not hold such views—that faintness was a sign of heart disease. It was not that, nor even a sign of heart disorder, but a vasomotor phenomenon, depending more on the nervous system than on the heart. No one with any real knowledge of medicine would say that a girl because she fainted had organic heart disease, as he believed was sometimes done.

Philadelphia Pediatric Society.

Joint Meeting with the New England Pediatric Society, the Section on Pediatrics of the New York Academy of Medicine and the New Jersey Pediatric Society, November the 12th, 1912. Theodore Le Boutillier, M.D., President.

The Treatment of Hæmorrhagic Disease of the Newborn.—Dr. Beth Vincent (Boston, Mass) discussed the recent progress which had been made in the treatment of hæmorrhagic disease of the newborn by the application of sero-therapy in the form of blood transfusion and the injection of animal serum, human serum and whole human blood.

Former methods of treatment were futile with the exception of gelatin. Success with this agent had been reported by some German writers.

The value of animal serum was not conclusively proved by reported cases. After reviewing the experience of others with human blood-serum, Dr. Vincent described his own method of transfusion with coated glass tubes and the use of the external jugular vein in infants.

In a summary of the value of serum treatment he said that human blood and its derivatives were more effective than animal serum. A combination of methods of injection and transfusion was the most rational way of applying this treatment. The injection of human serum or whole human blood was indicated at first sign of bleeding and in cases which took a favourable course. Transfusion was the most effective and safest measure in cases with persistent hæmorrhage and in cases exsanguinated by profuse bleeding.

Pyloric Obstruction, with a Comparative Study in the Normal Stomach of Infants.—Dr. Godfrey R. Pisek and L. T. LeWald (Radiologist, New York City), said that by the use of Röntgen rays and bismuth one could determine, by the degree of positiveness, whether a given case should or should not be operated upon. Modern apparatus, with the intensifying sheets securing instantaneous exposures, made this study possible.

The paper was illustrated with numerous lantern-slides, showing the stomach and alimentary tract of infants with pyloric obstruction, taken at short intervals, the series in each case being completed at the end of approximately twenty-four hours. Comparative studies were made in a similar manner, using normal infants, breast and artificially fed. It was soon evident that the accepted conception of the shape and activity of the infant stomach needed revision. Heretofore these facts have been obtained mainly at the autopsy table and from the embryologist.

The study showed that the normal stomach began to empty itself within a minute or two after the intake of food, and this fact was used to differentiate cases of pyloric obstruction in which the food, in cases of true stenosis, escaped very slowly and through an extremely narrow lumen, while in cases of pyloro-spasm it took twenty minutes to half an hour before the bismuth food passed into the duodenum.

As a result of their findings the speakers prophesied that, in the future,

every suspected case of pyloric obstruction would be subjected to a radiographic study before a plan of treatment was determined upon, just as to-day no surgeon would think of putting up a fracture without the use of the rays.

An Objective Method of Teaching Food Values and Food Requirements.—Dr. Clifford B. Farr (Philadelphia).—Dr. Farr, in teaching the principles of dietetics to medical students, nurses, and more particularly to the general public (Baby Saving Show), makes use of charts, graduated cylinders containing coloured fluids, and permanent specimens of foods preserved in graduated containers. The charts are worded as tersely as possible, covering, for example, the definition of foods and foodstuffs, the principal foodstuffs and their functions, the principle of the conservation of energy as applied to metabolism, the explanation of the use of the calorie as a unit of food (energy) values, the caloric requirements at various ages with special reference to weight and body surface. Cylinders graduated in c.c. (grammes) and containing coloured fluids, with explanatory labels, are used to show the amounts of the chief foodstuffs (protein, fat, carbohydrate, water, and salts) needed at different ages, the composition of special dietaries, and in a somewhat analogous manner the relative cost of important foods from a caloric point of view. The permanent museum consists of one hundred or more graduated bottles and jars, each containing a quantity of the food represented sufficient to produce 100 calories (method of Irving Fisher). These are fully and distinctly labelled and formed into groups as follows: Foods rich in protein, foods rich in fat, foods rich in carbohydrate, foods chiefly valuable for the salts contained, percentage mixtures and preparations used in infant feeding, diet for a child after weaning, various forms and preparations of milk (thirty) of equivalent food value, etc. The demonstration was supplemented by lantern-slides.

A Method of Scoring the Viability of Infants under the Care of Hospitals and Infants' Welfare Organisations.—Dr. Henry L. Coit.—Most of the methods employed for recording the results of charitable medical work among infants show only gross numerical facts, such as "improved," "unimproved," "cured," and "died."

These statistics constitute the total record of results of medical supervision over a great variety of cases, and represent a wide range of physical defects and diseases. They do not, however, indicate the influence of philanthropy upon the more important result of medical supervision and treatment, namely, the living prospects of the cases which did not die.

This is the character of the medical statistics recorded at the end of service, whether it be in an infants' hospital, the infants' ward in a general hospital, an institution for foundlings, an orphanage, or through the various social service agencies designed for the welfare of infants.

The results of educational methods are usually recorded in like manner, either in the mortality records or the influence of the philanthropy upon the weight of the infant without a comprehensive record of all factors contributing to the progress toward a normal physical condition.

All hospitals and philanthropic agencies for infants' welfare are supposed to direct their efforts against the causes of sickness, and some reliable method is needed to determine how far the work done influences the reduction of morbidity as well as mortality. Moreover, it is important to follow the work beyond its prophylactic influence, and, if possible, measure the

progress of the individuals benefited toward an improved environment, a normal nutrition, immunity to disease, and a maximum viability.

In this way only can it be learned how the many causative factors of morbidity and mortality are related to one another, or by which method of procedure the best results are to be obtained in our hospital and charity work. At present it is a matter of individual opinion, and many questions cannot be satisfactorily answered.

The percentage plan of scoring has been employed to determine the status of social, scientific, and commercial investigations, but no comprehensive scoring plan has been adopted which would include in its scope all conditions which influence the care, the physical condition, and the living powers of the infant.

The method presented consists of a statistical score card, and is designed for the collection of facts to determine the influence of environment, of management, of nourishment, and of morbidity upon the viability of the infant, and a graphic chart which will show the improvement in viability during a given time through the activities of a hospital, a medical philanthropy or educational work when directed to the betterment of the conditions which influence the life of the infant.

Abstracts from Current Literature.

Medicine.

Blood-cultures during life in infants and young children (*'Am. Journ. Dis. Child.,'* 1912,IV, *p.* 197).—**M. Wollstein** and **E. Morgan** made a hundred blood-cultures in eighty children, aged from ten days to four years, and obtained positive results in twenty-six cases. Blood was taken from the external jugular vein in all but three cases, in two of which the superficial temporal, and in one of which the median basilic was chosen. The pneumococcus was found before the crisis in four out of thirteen cases of lobar pneumonia, all of which recovered. Bacteriæmia was proved in six out of twenty-six cases of broncho-pneumonia, the pneumococcus being found in four, and the streptococcus in two. Both streptococcus cases and one pneumococcus case died. Eight broncho-pneumonia patients without bacteriæmia also died. The highest percentage of positive results was found in empyema—nine out of fourteen, or 64·3 per cent., three of which recovered. J. D. Rolleston.

The viscosity of the blood in children (*'Paris méd.,'* 1911–12, II, *p.* 133).—**E. Weill** and **C. Gardère** find that the viscosimeter gives as good results as counting the corpuscles, and is a much more rapid procedure. The authors carried out observations on children between 10 and 15 years of age. In the former they studied four cases of acute digestive trouble with dehydration, and found that the viscosity was increased. The administration of the solution of John and Heim (bicarbonate of soda 5 grm., chloride of soda 5 grm., water 1000 grm., 500 grm. in 24 hours) lowered the viscosity in the cases that recovered, but in the fatal cases the viscosity rose rapidly. In athrepsia the viscosity and the number of the red corpuscles were normal. In the other children studied for the purpose of discovering

the influence of the fluidity of the blood on the production of venous murmurs, it was found that the viscosity of the blood was lowered proportionately to the degree of anæmia. The murmurs were the result of the fluidity.

F. R. B. Atkinson.

Leucocyte inclusion bodies in scarlet fever (*'Deut. med. Woch.,'* 1912, xxxviii, *p.* 2163).—**M. Kretschmer**, after reviewing the literature, including his previous work (*vide* British Journal of Children's Diseases, 1912, ix, *p.* 528), gives the results of his recent investigations. He has now examined 110 scarlet fever cases and about 170 controls. All the scarlet fever cases showed more or less numerous inclusion bodies, except four who were admitted on the eighth, twelfth, and fourteenth days respectively. The bodies usually disappeared between the eighth and tenth days, but in severe cases might persist until the third week. After completely disappearing they would be found again in a relapse. The number of bodies varied, as a rule, with the severity of the attack. Of 170 controls 30 were positive, and were cases of diphtheria, pneumonia, erysipelas, puerperal fever, and other instances of septic infection. Kretschmer regards the bodies as products of cellular reaction to toxic substances.

J. D. Rolleston.

Acute myelocythæmia associated with osteo-sclerosis and other unusual features occurring in an infant (*'Edin. Med. Journ.,'* 1912, viii, *p.* 500).—**A. Goodall** describes the case of a female infant aged 10 weeks, showing the following appearances: (*a*) Petechial spots, (*b*) excoriations on the buttocks, with constant oozing of blood, (*c*) enlarged liver and spleen, (*d*) blood appearances of myelocythæmia, (*e*) osteo-sclerosis throughout the body. The case was considered to be the nineteenth recorded instance of myelocythæmia in infancy, and the twentieth occurring in an acute form at any age. The association of leucocythæmia with osteo-sclerosis has previously been recorded on only two occasions.

F. R. B. Atkinson.

The diazo-reaction in Leishman's anæmia (*'Gaz. internaz. d. med. chir., etc.,'* 1912, *p.* 775).—**S. Cannata** investigated eleven cases in children, aged from ten months to three years, and found the reaction positive in seven, and negative in four. Though a positive reaction was more frequent in severe than in mild cases, it might be absent in severe cases, so that no prognostic value could be attached to the reaction.

J. D. Rolleston.

Kala-azar in Spain (*'La Med. de los niños,'* 1912, xiii, *p.* 157).—**Vargos** notifies the existence of many cases of infantile splenomegaly due to Leishman's protozoon on the Mediterranean coast, especially in the neighbourhood of Tortosa. A forthcoming number will contain an account of the cases by Pittaluga.

M. D. Eder.

Henoch's purpura (*'Jahrb. f. Kinderheilk.,'* 1912, lxxvi, *p.* 573).—**A. Gana** records two cases. The first was a boy, aged 9 years, in whom the abdominal symptoms, suggestive of chronic intussusception, occurred first, and the purpura did not appear till the third week. Recovery took place without operation. The second was a boy, aged 5 years, who had had attacks of purpura simplex during the last two years. A fortnight before

admission purpura had appeared on the body, and he had bleeding from the mouth. Twelve days later colicky pains, vomiting, constipation, and blood in the urine occurred, and a painful swelling appeared on the right side of the umbilicus. Death took place without operation. Post mortem, intussusceptions were found in the ileum and descending colon.

J. D. Rolleston.

Henoch's purpura treated with human blood-serum (*'Med. Record,'* 1912, II, *p.* 249).—**S. J. Wilson** reports a successful instance in a severe case of purpura, in which there was ulcerative tonsillitis, showing as predominating organisms *Streptococcus longus* and *Staphylococcus citreus*. The child, a boy, aged 9 years, was extremely ill, and the case was regarded as hopeless. The child's father was venesected on two occasions to 15 ozs. and 12 ozs., and the serum obtained from this blood injected subcutaneously. Five injections were given in six days. Reginald Miller.

Hæmophilia; death due to sprain of knee (*'L'Echo méd. du Nord,'* 1912, XVI, *p.* 309).—**H. Paucot.**—The first symptoms were manifest at the age of 18 months, when, after a fall, two severe palpebral hæmorrhages appeared. At the age of 2 years there was severe bleeding from the gums, and six weeks later blisters applied for broncho-pneumonia caused hæmaturia. At the age of $2\frac{1}{2}$ there was severe bleeding from a bruise, and another hæmorrhage from the gums a year later. These gingival hæmorrhages occurred from time to time up to the age of 16 years. After the age of 12 years, after slight injuries, the child began to get swellings of joints, first of the shoulder, then of the knee and other joints. At the age of 25, making a false step, the patient sprained the right knee, which became much swollen, and a painful swelling extended to the thigh and leg. He became very anæmic, with a frequent and very weak pulse. The temperature became subnormal, he showed tendency to syncope, became drowsy and more pallid, and died in a severe attack of coughing. The urine contained abundant mucin, traces of urobilin, very abundant scatol, but no other abnormal ingredient. Further examination of the urine showed diminished alkalinity, a destruction of leucocytes leading to an increase of uric acid and a lessened urea output due to hepatic insufficiency. Microscopically there was no blood and no casts. J. Porter Parkinson.

Hypodermic use of hæmatinics in anæmia of children (*'Am. Journ. Dis. Child.,'* 1912, IV, *p.* 160).—**H. Lowenburg** reports twenty cases of anæmia in children, aged from four weeks to fourteen years, whom he treated by hypodermic injections of the following composition: Ferri cit. gr. $\frac{3}{10}$ or $\frac{3}{4}$, sod. cacodyl. gr. $\frac{1}{2}$, sod. glycero-phosph. gr. $1\frac{1}{2}$, aq. dest. ℥xx. The gastric disturbance caused by the ingestion of the drugs was thus avoided, and the tonic effect was noted almost immediately after treatment. The average number of injections given to a case was a little over ten. The best and least painful site for injection was found to be the posterior lateral inner aspect of the upper part of the arm. J. D. Rolleston.

Vacuolisation of the muscular fibres of the heart in infantile atrophy and hypotrophy (*'Clin. Infant.,'* 1912, X, *p.* 353).—**G. Variot** and **Caillian** described the appearances seen in transverse and longitudinal sections. The vacuoles are round or oval cavities, with sharp outline, more or less confluent on the line of section. Each forms a shining space in

whose centre the muscular substance seems to have vanished. When, however, the vacuole is recent and small, granular substance may be seen in it. Reagents show that this condition is not associated with fatty degeneration. Longitudinal sections show that generally the vacuole is seated near or around the nucleus, and there seems to be an increase of perinuclear sarcoplasm. Between the nuclei several vacuoles in a longitudinal series are sometimes seen, but these internuclear vacuoles are much less common than the perinuclear. The parts of the myocardium most frequently affected are, in order of frequency, the left ventricular walls, the pillars of both sides, the apex and the left auricle. Three stages are described: In the first stage the lesions are discrete, there is an hypertrophy of certain muscular fibres, 40 to 50 mm. There is no atrophy, the muscle nuclei are slightly proliferated and hypertrophied, vacuoles are scarce, but granular collections and pale-coloured patches in the thickness of the fibres may be observed. The perinuclear sarcoplasm is hypertrophied. The heart is large. This type is found in infants in whom hypotrophy is little marked. In the second stage the lesion is in full evolution, hypertrophied fibres are no longer found, the perinuclear sarcoplasm is increased, and atrophy marked, certain fibres having a moniliform appearance. The nuclei are proliferated and distorted, the vacuoles numerous and marked and heart enlarged. This type was met with especially in a case of tuberculous hypotrophy, and corresponded to that met with in cases of marked hypotrophy with arrest in height and weight due to gastro-intestinal trouble. In the third stage there is generalised vacuolation and atrophy of the fibres; it is met with in a marked degree in cases of Parrot's athrepsia. Seventy-two cases were observed by the authors; the ages ranged from a few days to three years; the majority were between three and seven months. The activity of the process was increased by infection, but in a manner which varied with the nature of the agent. In diphtheria, for instance, there was extreme vacuolisation with great degeneration of the fibres, which were granular and swollen but had little tendency to atrophy. In tuberculous hypotrophy atrophy was marked, and in congenital syphilis both vacuolisation and atrophy were manifest. As to the probable mechanism of the process of vacuolisation it is plausible to suppose that the myocardium, which is in a continual state of intermittent contraction, not being able to renovate itself to meet its physiological requirements, is obliged to fall back on its own reserves.

VINCENT DICKINSON.

Dextrocardia and congenital diaphragmatic hernia (*'Semana Med.,'* 1912, XIX, *p.* 549).—**Beronguer** describes the post-mortem examination of an infant who survived birth for thirty-two hours. The heart occupied the right pleural cavity; the left contained the stomach, spleen, the small and part of the large intestines. The diaphragm showed a breech of continuity at the angle formed by the vertebral bodies and the aponeurosis of the transversalis abdominis, an instance of the common malformation of a hernia *en croissant* of Duguet. The dextrocardia was embryonic in origin; it had undergone development in the right pleural cavity. M. D. EDER.

Congestion of the lungs with patent ductus Botalli (*'Monatsschr. f. Kinderheilk.,'* 1912, IX, *p.* 224).—**A. Hayashi** describes two cases of this condition. In the first case, a boy, aged 6 days, post-mortem examination revealed congenital atresia of the aorta between the left carotid and subclavian arteries, with hypertrophy of the right ventricle. In the

second case, a girl, aged 10½ months, the ductus Botelli was patent, and there were marked dilatation and hypertrophy of the whole heart. The lungs in both cases showed congestive changes.

F. R. B. Atkinson.

Acute endocarditis in typhoid fever (*'Rev. de méd.,'* 1912, xxxii, *p.* 736).—**P. Savy** and **G. Gardère.**—A boy, aged 14 years, who had had acute rheumatism complicated by mitral incompetence four years previously, developed embolism of the right brachial artery in the fourth week of typhoid fever, and died the following day. There was no bed-sore nor any other cutaneous infection. Post mortem, in addition to typical intestinal lesions, recent vegetations were found grafted on the old lesions of the mitral valve. Recent infarcts were present in the spleen and liver. No bacteriological examination was made. Endocarditis is rare in typhoid fever. A large number of the recorded cases must be rejected. It is usually due to a secondary infection, especially a bed-sore, and very rarely to the typhoid bacillus (*cf.* British Journal of Children's Diseases, 1910, vii, *p.* 85).

J. D. Rolleston.

Bradycardia from partial heart-block in diphtheria (*'Zentralbl. f. Kinderheilk.,'* 1912, xvii, *p.* 309).—**Sperk** and **Hecht.**—A child, aged 3 years, on the third day of laryngeal diphtheria had a pulse of 70, which soon sank to 50, and then ranged between 50 and 60. The cardiac dulness was increased. An electro-cardiogram showed that only every second auricular systole was transmitted to the ventricle. In the venous curve also two auricular waves could be seen for one ventricular wave. After injection of 1 mgrm. atropine, the number of auricular systoles rose to 160, and of the ventricular systoles to 80. The lesion caused by the diphtheria toxin must, therefore, have been in the conducting bundle. In such cases atropine is suitable, and digitalis is contra-indicated. J. D. Rolleston.

A typical case of permanent slow pulse in a girl, aged 11 years (*'Arch. de méd. des enf.,'* 1912, xv, *p.* 694).—**B. H. Echenique** narrates a case of Stokes-Adams' disease in a girl of a family of eight children, with no preceding history to account for the condition. The disease had lasted for twenty-six months, and the child was still living at the time of publication. The pulse was regular and amounted to 33 pulsations per minute.

F. R. B. Atkinson.

Arrhythmia in healthy children (*'Arch. f. Kinderheilk.,'* 1912, lviii, *p.* 30).—**R. Friberger** examined 321 school-children, aged from 5–14 years, with the following results: Not a single one had a completely regular pulse. In 37·4 per cent. the pulse was fairly regular, in 12·2 per cent. it was markedly irregular, and in 50·4 per cent. moderately irregular. Arrhythmia in healthy children is of the "youthful type of irregularity" described by Mackenzie. It was somewhat more frequent in girls (69·8 per cent.) than in boys (59 per cent.). The frequency of moderate and marked arrhythmia fell from the fifth to the twelfth year, while in the thirteenth, and still more in the fourteenth, it increased. Neither size, weight nor muscular development had any influence on the frequency of arrhythmia. Thirty-eight children showed signs of an unstable nervous system and 118 had had scarlet fever or diphtheria or both diseases, but in neither group was arrhythmia markedly frequent. J. D. Rolleston.

Pseudo-cardiac and cardiac murmurs in children of no pathological importance (*'Jahrb. f. Kinderheilk.,'* 1912, LXXVI, *p.* 247).—**W. Schlieps** examined 273 children suffering from various slight ailments which had no connection with the heart and found a systolic murmur in 100. Three-fifths (63) of these showed a cardio-pulmonary murmur. He agrees with Potain that the anorganic murmurs arise in the lungs for the following reasons: (1) Their maximum intensity is to be found in the border of the lungs. (2) Experiments on animals have shown that murmurs are frequently present in dogs, who on section showed no organic changes in the heart. (3) The murmurs frequently change into respiratory murmurs and *vice-versâ*, according to the influence of the heart or breathing. The author does not believe that anæmia has anything to do with the cardiac murmurs in childhood. A third of the murmurs is due to a lowering of the tonus of the cardiac muscle, and he calls them "atonic" murmurs. They disappear when the general condition of the child is improved. F. R. B. ATKINSON.

Chronic aortitis and atheroma in children (*'Arch. d. mal. d. cœur, d. vaiss. et d. sang.,'* 1912, V, *p.* 625).—**A. Lévy-Franckel** has collected thirty-five cases, of which nine are personal, of acute or chronic aortitis and atheroma in children aged from birth to seventeen years. Of his own cases five were examples of acute or subacute aortitis and four of atheroma. In the thirty-five cases congenital syphilis figured most frequently as an antecedent, and then in order of frequency articular rheumatism and chorea. The *rôle* of other affections, apart from chronic scarlatinal and specific nephritis, is questionable. J. D. ROLLESTON.

Cardiac sequelæ of tonsillar infection (*'New York State Journ. of Med.,'* 1912, XII, *p.* 473).—**J. R. Wiseman.**—Every case of tonsillitis should be regarded as a serious disease, and treated by rest in bed. Every case should be carefully examined before discharge for cardiac or renal trouble. Cardiac complications are more common than are supposed after throat affections. The author narrates four cases in children of four, seven, six and seven years respectively, in whom mitral disease followed an ordinary tonsillitis. F. R. B. ATKINSON.

The diagnosis and treatment of early cardiac complications of rheumatism (*'Brit. Med. Journ.,'* 1912, II, *p.* 929).—**D. B. Lees** points out that "acute and subacute rheumatism" is a bacterial infection, most common and most virulent in childhood, less common and usually less virulent in adolescents and in young adults. There is but one symptom which is present in every case of the disease. Arthritis, nodules, endocarditis, pericarditis, pleurisy, tonsillitis, erythema, chorea, and all other rheumatic symptoms may be present or absent, but dilatation of the left ventricle is invariably present. This dilatation is caused by toxæmia or myocarditis, or both combined, and it is a very early symptom. The dilatation can easily be detected by careful percussion, rightly performed. It is quite easy to determine accurately the sloping line of dulness of the edge of the left ventricle in the fourth and fifth left interspaces, and that of the right auricle in the fourth right interspace. The first essential for the successful treatment of the cardiac implication of rheumatism is prolonged rest, and in the case of the child this means rest in bed. The second essential is an adequate anti-rheumatic medication. Sodium salicylate in large and gradually increasing doses, combined with sodium bicarbonate in

the proportion of one of the former to two of the latter, should be given. During this treatment it is important (1) to prevent constipation, (2) to keep the urine slightly alkaline, (3) to stop the medicine when symptoms of salicylism supervene, but to resume the salicylate after a few hours in a dose of one half the size of the dose last given, and soon to increase the amount as far as possible. When the dilatation (with or without endocarditis) is great, and especially when pericarditis is present, the medicine should be freely given and an ice-bag should be kept permanently over the præcordial region, with due precautions against general chill. Careful nursing is essential. The application of leeches is often beneficial.

J. ALLAN.

The relation of chorea to rheumatism: an analysis of 300 cases (*'Practitioner,'* 1912, LXXXVIII, *p.* 461).—**M. S. Fraser's** findings are as follows: (1) Out of the 300 cases investigated, 56 per cent. showed during an attack, or before it, evidences of rheumatism. (2) Seventy-two per cent. had a personal or strong family history of rheumatism. (3) Chorea and rheumatism are rare under five years of age. (4) A neuropathic tendency is a very important factor as an exciting cause of chorea. (5) The majority of cases of chorea are closely associated with rheumatism. Probably chorea is a cerebral manifestation of rheumatism. Possibly all cases of true chorea are rheumatic in origin.

F. R. B. ATKINSON.

Chorea and its treatment (*'Dublin Journ. Med Sci.,'* 1911, II, *p.* 336).—**S. F. A. Charles** believes that chorea is due to an intoxication of the system. While he admits the constant association of chorea and rheumatism, he dissents from the view held by many that chorea is a rheumatic manifestation due to a general infection of the whole system with the toxins of rheumatism. He is inclined to think that the toxins in each case are different, but that a rheumatic diathesis is conducive to an attack of chorea. After discussing the symptomatology he examines the indications for treatment. In the first place, treat the diseased neuron by rest, restrain your patient in bed, and, if thought necessary to exclude all superfluous sensory stimuli, isolate the individual. Secondly, control the movements with the free use of trional, thereby producing both mental and physical rest. Thirdly, improve the general health with tonics and a good nutritious diet, from which tea and coffee are excluded. To be of service it is necessary that the trional should be given in large doses.

J. ALLAN.

Nodular rheumatism in children (*'Arch. f. Kinderheilk.,'* 1912, LIX, *p.* 1).—**Rosa Berkowitz,** as a result of the examination of the histories of seventy-eight cases from the literature and five personal cases, came to the following conclusions: (1) The various changes which are found in the structure of the nodules are closely related to each other, notwithstanding their polymorphous appearance. (2) The change of the connective tissue is the origin of every further modification. (3) The different structure of the nodules shows various stages of progressive and then retrogressive metamorphosis of the connective-tissue proliferation, commencing with reactive increase of cells and ending in hyaline or necrotic degeneration, the latter being a process of absorption of the nodules. (4) Nodular formation is only found in severe forms of articular rheumatism in children (97 per cent.). (5) Rheumatic nodules occur in children at the age of puberty who have passed through an acute rheumatic infection without being completely cured.

(6) It is necessary for the appearance of the nodules that the child should still be under the influence of the excitant or poison of the rheumatic infection, which shows itself by relapses of the joint trouble, or other rheumatic manifestations as chorea, endo- or pericarditis. (7) The particular properties of the infective excitant must be considered as well as its increased virulence in the production of nodular rheumatism.

F. R. B. Atkinson.

A case of Still's disease (*'Amer. Practitioner,'* 1912, xlvi, *p.* 553).—**J. Collins** records a case in a boy, aged 12 years, of Hungarian Jewish parents The disease started a few weeks after pneumonia at the age of 4 years. All the joints of the extremities were enlarged and deformed, the spine was rigid in the cervical and dorsal regions, the spleen and liver were enlarged and there was general adenoplasia. The skin was dry and scaly and there was disseminated alopecia. Intelligence good. Blood-examination: Red cells, 3,982,000; white cells, 24,200. Differential count: Neutrophiles, 70 per cent.; eosinophiles, 3 per cent.; basophiles, 0; large lymphocytes, 10 per cent.; small lymphocytes, 16 per cent.; transitional, 1; hæmoglobin, 50 per cent. The red cells showed marked microcytosis and hæmoglobin degeneration. Wassermann negative. The urine showed albumin in varying amounts, with many hyaline and a few granular casts.

J. D. Rolleston.

A case of Still's disease (*'Jahrb. f. Kinderheilk.,'* 1912, lxxvi, *p.* 707).—**H. Koeppe** records a fatal case in a boy in whom polyarthritis developed a fortnight after measles at the age of two years and was followed by enlargement of the spleen and lymph-glands. The pallor, emaciation, fever and signs in the lungs at first suggested tuberculosis, but von Pirquet's reaction was negative and a correct diagnosis was made during life. Death ook place at the age of three years and ten months. The necropsy showed total obliteration of the pericardial cavity, pneumonia of the whole of the left lung with abscess formation, moderate splenic enlargement, parenchymatous degeneration of the kidneys, cloudy swelling of the liver, swelling of the mesenteric lymph-glands, slight follicular enteritis, and multiple polyarthritis. This is about the twenty-second case of Still's disease on record, and the second published in Germany, the first German case having been reported by Stock in 1904 in his Kiel thesis. Reference is made to the cases reported in this Journal by Parkes Weber (1905, ii, *p.* 208), Newlin (1909, vi, *p.* 316), and Barclay Ness (1910, vii, *p.* 199). J. D. Rolleston.

A case of Still's disease (*'Med. Record,'* 1912, ii, *p.* 93).—**V. P. Gibney** reports a case of multiple arthritis in a small boy, which started with a relapsing pneumonia of many weeks' duration. It was noted that on each occasion that the pneumonic process underwent resolution the arthritic symptoms became temporarily worse. Enlargement of the spleen and glands was present, and the joints showed much periarthritis without bone changes.

Reginald Miller.

Joint complications of measles (*'Gaz. des Hôp.,'* 1912, lxxxv, *p.* 1905).—**Crémieu** and **Lacassagne** state that arthritis after measles is very rare, but more frequent in adults than children. It may be a simple passing arthralgia or a purulent arthritis necessitating arthrotomy. It is generally confined to one joint and appears during the convalescence; effusion appears,

and then may either disappear or go on to formation of pus with all the signs of a very acute arthritis. Sometimes it assumes the form of a tubercular arthritis. In the other forms the streptococcus in pure culture has been found, and so they are due to a secondary infection, for which measles has prepared the soil. Two cases are quoted, in both of which the knee-joints were the site of the arthritis. Both were of the type of a hydrarthrosis, lasting in one case a month and in the other twenty-eight months. In the latter case the swelling raised greatly from time to time, but the joint was left apparently normal. J. Porter Parkinson.

School Hygiene.

On sleep (*'School Hygiene,'* 1912, III, *p.* 109).—**Clive Riviere** explains the physiology of sleep by (1) cerebral anæmia as evidenced by the ophthalmoscope, by the increase in volume of the extremities, and by diminished blood-pressure; (2) loss of irritability of sensory and association fibres in the cortex; (3) voluntary avoidance of stimuli exciting the vaso-constrictor centres. Duval's theory of the retraction of the dendrites of the brain cells is also referred to. Sleep is deepest at the end of the first hour and up to the fifth hour. As sleep becomes shallower, ideas, unrestrained by will, rise into consciousness and give rise to dreaming. Eight hours are required for adults and more for growing boys. In the English public schools the time allowed is far too short: nine hours in summer and nine and a half in winter should be enforced, the extra half hour in winter being required by the greater loss of heat and more active exercise. Ravenhill, studying elementary school-children, found that "entrants and leavers" lost an amount of sleep equivalent to one night in every four, and those at intermediate ages one night in every five. Attendance at markets, choir practices, bands of hope furnish the explanation. The quality of the sleep of the poor suffers by bad ventilation, vermin, and noises. The immediate results are loss of mental and physical vigour, mental irritability, and depression. Illustrations of scholars' handwriting on full and short hours of sleep are given, and the loss of judgment, memory and muscular co-ordination is well shown under the latter conditions. Fainting attacks of a type liable to be mistaken for minor epilepsy are attributed by Dukes to lack of sleep. For the boarding school the author recommends no rising till 7.30, and no work before breakfast. For the elementary school child two hours of sleep should be placed in the daily curriculum.

Christopher Rolleston.

Handicraft for school-girls (*'Journ. of State Med.,'* 1912, XX, *p.* 418).—**Miss E. P. Hughes** points out that all the arguments which can be brought forward in favour of the teaching of handicrafts to boys can be applied with intensified force to girls. She discusses such arguments under the headings physiological, psychological, educational, economic and social, and she gives details of schemes for handicraft suited to girls at different ages. The results noted are summarised as follows: (1) Much better attendance at school, because the children are so interested and because the parents can understand the value of what they are learning. (2) The children have learnt to love working with their hands, and are also not satisfied unless their work is fairly good. (3) They have learnt to dislike seeing anything in the home unmended. (4) Their ingenuity and capacity

for contriving, adjusting and adapting have greatly developed. (5) The children increasingly believe that if something is wrong (does not act, is falling to pieces, etc.) it should be put right, and they increasingly believe that if they try hard they probably can put it right. (6) It has much increased their interest in their home and in home work, possibly because increased dexterity, skill and knowledge enable them to do this work much more quickly and much better. (7) It has undoubtedly quickened their capacity for acting and thinking, and has developed their intelligence generally. (8) Discipline has ceased to be any difficulty.

J. Allan.

The open-air schools of Cleveland (*'Cleveland Med. Journ.,'* 1912, x, *p.* 717).—**J. C. Placak** gives a short account of the management of the open-air schools of Cleveland. The result obtained, both in physical improvement and mental alertness, has been very marked. The points to which special attention should be called are the improvement in the general health of these children; the great advance in scholarship as compared with that made by these same children when in the regular schools; and the remarkable freedom of these children from attacks of coryza, tonsillitis, and bronchitis, as compared with those in the regular schools. The author considers that the open-air schools have proved their worth as a valuable aid in the great battle which is being waged against the "white plague."

J. Allan.

The prevention of school epidemics (*'Journ. of State Med.,'* 1912, xx, *p.* 605).—**Von Drigalski** gives an account of the methods adopted, particular attention being accorded to the question of "carrier" cases.

J. Allan.

The prevention of tuberculosis among school-children (*'Journ. of State Med.,'* 1912, xx, *p.* 625).—**Nietner** agrees with Schlossmann that tuberculosis is a true children's disease, is acquired during childhood, may be prevented during childhood, and must be treated and cured during childhood. The infection is acquired in the home through association with persons suffering from "open" tuberculosis. The safest way of rendering an infected individual innocuous to his environment is to isolate him. Equally efficacious would be the removal of healthy children from infected houses to healthy surroundings. They could be boarded out, as Grancher suggests, with healthy farmers in the country, or be brought up in juvenile homes, after the Swedish model. But these methods are often impracticable. The danger of the consumptive school teacher is discussed, and it is concluded that it would be wiser to institute measures for preventing consumptive persons from entering the school-teaching profession. To attain this end the following measures are suggested: Inclusion of hygienic instruction, with special reference to the prevention of tuberculosis, in the curriculum of all seminaries for teachers; searching medical examination of all candidates for the seminary; medical supervision over seminary pupils; above all, careful medical examination before appointment to school posts and rigid exclusion of all tuberculous subjects. The entrance of children suffering from open tuberculosis into the school can best be prevented through the universal introduction of an efficient school medical service, and the initial duty of the school medical officer should be the thorough examination of all school entrants. Those children who are

already suffering from manifest tuberculosis are excluded from entering school. Those children who show faulty development must also be provisionally excluded. Those children who are judged to have latent tuberculosis are admitted, but receive special supervision. Educative measures and the hygienic construction of school premises and class-rooms are also discussed. J. Allan.

The prevention of deafness and the instruction of the deaf child (*'Med. Record,'* 1912, i, *p.* 827).—**Hudson Makuen** considers his subject under three heads: (1) To what extent is deafness preventable? (2) How is it preventable? (3) What could be done for children irrevocably and irremediably deaf? He believes 50 per cent. of deafness to be preventable. Congenital deafness can be prevented by strict application of the principles of eugenics, and acquired deafness from measles, scarlet fever and nasal conditions could be prevented if the practitioner would but do his duty. The key to the situation in the matter of prevention of deafness is in the hands of the general practitioner. As regards education, the deaf child must not be classed as mentally defective. Those slightly deaf should be instructed in classes with normal children; those of greater degrees of deafness in special classes. The instruction of the deaf child should begin at home under the direction of an intelligent mother or governess and a physician. Macleod Yearsley.

The causes leading to educational deafness in children, with special reference to prevention (*'Lancet,'* 1912, ii, *pp.* 138 *and* 228).—**Macleod Yearsley** has collected statistics relating to 2197 children of both sexes, 1076 of whom he had examined personally in the London County Council schools and elsewhere. Of the 1076 cases, 484, or 44·98 per cent., were cases of congenital deafness, and 592, or 55 per cent., were acquired cases. In 123 families congenital deafness occurred in the direct line or in collateral branches in 56, or 45·5 per cent., and in 309 families consanguinity of parents was present in 22, or 7·08 per cent. Yearsley therefore maintains that the number of deaf-mutes could be considerably diminished by the application of eugenic principles. Among the causes of the acquired cases the infective diseases came first with 214 cases, or 34·4 per cent., of which 156 belonged to the infectious fevers. The cases due to diseases of the nervous system numbered 111, or 18·7 per cent., of which meningitis (exclusive of the tuberculous form and epidemic cerebro-spinal meningitis) formed the greatest bulk—65, or 10·9—of the acquired cases. One hundred and seventy-six cases, or 29·7 per cent., were due to primary ear disease, in which middle-ear suppuration and middle-ear catarrh bulked almost equally. Miscellaneous causes, chiefly injury, accounted for 58, or nearly 9·8 per cent., of the acquired cases. Seventeen cases, or 2·8 per cent., were due to combined causes, 11 cases were of doubtful origin, and in 10 the cause was unknown. The prevention of acquired deafness is then discussed according to these various causes (*v.* British Journal of Children's Diseases, 1912, iv, *p.* 390). J. D. Rolleston.

An experiment in the training of backward children (*'School Hygiene,'* 1912, iii, *p.* 37).—**Duncan Forbes** divides backward children into (1) ordinary dull, backward children, who make all-round, slow, and steady progress; (2) intermediates, who are weak in one or more subjects, are unable to be taught with younger children, are lacking in concentration, and are quite unable to benefit from abstract teaching. An intermediate

form, called the "practical class," was arranged of twenty-seven boys, whose average age was twelve years and their average ability that of Standard II. To every side of the teaching a practical aspect was imparted: in arithmetic they make out bills and measure objects, in history they make models of the various objects mentioned, and in geography they make clay outlines. The author says that at least half the school-day must be given up to such work as clay-modelling, and work in cardboard, paper, and wood. The subsequent history of thirteen cases who left the school was fairly satisfactory: nine are in regular work, and of these five may be said to be engaged in skilled occupations, while the remaining four are in blind-alley careers of the nature of paper-selling and message-carrying.

CHRISTOPHER ROLLESTON.

School closure in measles (*'Lancet,'* 1912, I, *p.* 294).—**A. Banks Raffle** favours this as a means of preventing the spread of measles, and he submits statistics of a recent severe epidemic of measles in South Shields in support of his contention. Fifteen out of 21 of the infant schools were closed. There were in this epidemic 4470 children exposed to infection, and of these 2180 were susceptible to measles. Of these 853 were attacked, 638 cases occurring during the time the children were at school, and 140 during a period of fourteen days after the school was closed; that is, 778 cases which might have been infected either at school or in home life. Thus, at the time of the removal of the possibility of the infection at school, there were still more than 1400 children who were susceptible to measles. Only 75 of these children contracted the disease. This shows, in the opinion of the author, the important part played by the school in the spread of the infection of measles, and the value of school closure in this epidemic as a preventive measure.

J. ALLAN.

Results of re-vaccination in school-children (*'Clin. Infant.,'* 1912, X, *p.* 563).—**Dufestel** examined 293 re-vaccinated children on the fourth and the eighth day after vaccination, with the following results: 123 were negative on the first examination and 160 on the second; 33 were doubtful on the first examination, but were either positive or negative on the second, and 137 were positive on the first examination and 133 on the second. He concludes that all children should be examined twice. It appears that the doubtful cases disappear between the fourth and eighth day; these are children whose previous vaccination is still partly efficacious. His results also show that nearly half the children have lost the effects of their first vaccination by school age.

J. PORTER PARKINSON.

The medical inspection of school-children in the elucidation and prevention of rheumatism (*'School Hygiene,'* 1912, III, *p.* 131).—**F. J. Poynton** deals with the help that may be expected to be obtained from the inspection of school-children in the study of rheumatic questions. He expresses the hope that by this means the sources of infection and the predisposing causes of rheumatism may become more clearly recognisable. He points out some of the problems awaiting elucidation, and gives an account of the stage of invasion and early symptoms of rheumatism in children. Of particular importance is his plea for the establishment of "sanatoria" suitable for the convalescent rheumatic child, where prolonged rest and treatment can be properly carried out in such a way as is now impossible either in the wards of a hospital or in the homes of the poor.

REGINALD MILLER.

Epidemic poliomyelitis in west Suffolk (*'School Hygiene,'* 1912, III, *p.* 94).—**D. A. Carruthers** states that there were forty cases distributed over twelve schools situated in the south-east, west and eastern sections of the county. The children affected with the disease were excluded for five months, the house contacts for six weeks, and children suggesting prodromal symptoms, viz. headache, sore throat, drowsiness and diarrhœa for two weeks. No clear proof is forthcoming that any of these administrative methods were of any use. In one school where a boy actually attended during his illness no further case arose. In another outbreak, connected with three deaths, the school was on its holidays and did not reassemble till after the epidemic had abated, and further, in the village with the largest number of cases, *i. e.* ten, only three were of school age. This is in marked contrast to the Devonshire schools reported by Dr. Adkins.

CHRISTOPHER ROLLESTON.

School and epidemic paralysis of children (*'Jahrb. f. Kinderheilk.,'* 1912, LXXVII, *p.* 143).—**J. Langer** agrees with the view that Heine-Medin's disease is contagious, and draws attention to the following facts in support of the view that school is a source of infection. Sixty cases of the disease occurred in school-children as opposed to thirty-seven in children during holiday time. Twelve times two cases, twice three cases, and once five cases occurred in one class. The inoculation period varied from five to sixty days. In six cases the diseased sat next to each other, and ten times only children of the same sex were affected (seven girls, three boys). The affected children were in daily contact with each other. The children in some of the classes were visited by children not at school, related to diseased brothers and sisters.

F. R. B. ATKINSON.

Modern methods of cripple care in Germany (*'Journ. of State Med.,'* 1912, XX, *p.* 595).—**K. Biesalski** points out that the aim of the cripple institution is to convert the cripple into a healthy wage-earner. In Germany the term "cripple" is held strictly to apply to individuals who exhibit functional disturbances connected with the movements of the body or limbs. But crippled individuals who also suffer, for instance, from tubercular glands, hare-lip, or rachitis in its most glaring form, or who are idiots or epileptics, are, generally speaking, excluded from the benefits of institutional training. All the German institutions are divided into three sections: the clinic, the school, and the workshop. All three work under one roof, and are under one management as an organic whole; this arrangement ensures that time, money, and energy are most profitably employed, and achieves the best possible results. The clinical section contains an operating theatre, medico-mechanical apparatus, Röntgen laboratory, drilling-hall, and orthopædic workshop for the manufacture of iron splints, etc. The teaching in school is largely manual. There is also instruction for backward children by specially trained teachers. Continuation and trade classes are also arranged for the workshop pupils, and these accurately correspond to legislative requirements. Arrangements for "ambulant" cripple treatment have more recently been made, but as yet organisation in this respect is far from being perfect.

J. ALLAN.

The want of school dentistry (*'Med. Press and Circ.,'* 1912, I, *p.* 460).—**G. Sheppard** says that in Ireland there is practically no conservative dental treatment available for the poorer classes. So far only

four school dental clinics had been established in contrast with England, where twenty-nine are already at work. He calculates that 560,000 children in the Irish elementary schools suffer from caries. Dental hygiene is being taught to 430,000 children, but more stress should be laid on dietetic errors, and the use of tooth-brushes, silk and powder should form part of the general school routine. As substitutes frayed pieces of cane, linen thread and precipitated chalk and soap are recommended. With limited funds no carious temporary teeth can be filled. Extraction and the application of silver nitrate is the only possible treatment. It is suggested that if treatment began with the six years old and were continued throughout the school life there would be 140,000 children to be treated and 168,000 permanent carious teeth to be filled annually. The interest of the teachers must be enlisted, and the lessons received by the children must be imparted to the parents, who here, as in other parts of school medical work, are the main obstacles to progress. CHRISTOPHER ROLLESTON.

Pollution of swimming-baths (*'School Hygiene,'* 1912, III, *p.* 79).—**J. Graham Forbes** found in a bath of 4300 gallons capacity, which was emptied and scrubbed once or twice a week, 100 organisms of the *proteus* group per c.c. After the bath had been in use for two days 4000 organisms per c.c. were counted, consisting of bacteria of (1) the skin, *e.g. Staphylococcus pyogenes aureus, S. epidermidis albus*, and members of the *proteus* group; (2) normal saliva; (3) fæces, *e.g. B. coli, B. pyocyaneus*, and *Streptococcus fæcalis. B. coli* was found in as little as 5 c.c. of the bath water. These organisms are of practical importance, for *B. pyocyaneus* and *proteus* may give rise to otitis media and pulmonary abscesses. There must also be considerable danger of infection by the organisms of tubercle, typhoid fever, and diphtheria. The author concludes by advocating the use of a fluid prepared by electrolysing a mixture of magnesium chloride, sodium chloride, and caustic soda. This method was devised and tested by Dr. Alexander, Medical Officer of Health for Poplar, who found that water holding 10,000 organisms per c.c., chiefly *B. coli* and *streptococci*, after treatment with the electrolytic fluid contained only 300 harmless saprophytes per c.c. CHRISTOPHER ROLLESTON.

Reviews.

LE NOURRISSON. A bimonthly review. No. 1, January, 1913. Pp. 64. Subscription 12 francs for France, 14 francs for other countries. Paris: Baillière et Fils.

IN welcoming this new journal, which is devoted to the hygiene, pathology, and diseases of the first two years of life, it is only just to pay a tribute to the energy of Professor A. B. Marfan, the editor, who explains the objects and scope of our contemporary in the introduction, and in collaboration with Dr. Baudouin describes a remarkable case of congenital stenosis of the pylorus. For the last eight days of life the infant showed a general tetaniform contracture, which appeared to depend on toxic changes in the pyramidal cells of the cerebral cortex in the Rolandic area. The poison, which was probably manufactured in the stomach as the outcome of stasis

due to pyloric obstruction, gave rise to hæmorrhages and fatty changes in the liver. It is noteworthy that the parents of the infant were Italians, for congenital pyloric stenosis, though comparatively common in England, North America, Germany and Scandinavia, is very rare in France and in the Latin and Slav races. This first number contains another original article of interest—"The Control of the Upbringing of Infants," by Dr. Aviragnet—and a general review on "The Internal Temperature of Newborn and Premature Infants," by Dr. E. Apert. There is also a practical article on "The Treatment of Impetigo by the Local Application of Fuchsin," by Dr. Triboulet. A valuable feature of this review is the large space devoted to abstracts of current literature. H. D. R.

National Association for the Study and Education of Exceptional Children. Proceedings of the Second Annual Conference. Plainfield, New Jersey. Pp. 190. Price $1·50.

This association exists to help the handicapped normal child, the unfortunate, the misfit, and the misunderstood.

The introductory address was delivered by Dr. Emil Schmidt, who referred in glowing terms to the work of Dr. Grossmann and to the institution (Herbart Hall) which he directs, where a completely fitted pædagogic laboratory has been established.

Dr. Marcus Neustaedter, in a chapter on ætiological factors, states that parental intemperance exercises a marked influence upon the nutrition, from which results a mental and physical deterioration. Inebriety should be punished by revoking the licence of any resort where this occurs. Marriage should be preceded by medical examination, and divorce should be facilitated. Vasectomy is strongly advocated, and it is stated that in three quarters of the criminals so treated no objection was made, and that recidivism was far less frequent among the operated than among the intact.

The conference considered self-abuse and cigarette smoking at some length during the time set aside for juvenile delinquency, but no very satisfactory agreement as to the importance of these aberrations was reached.

In Dittrich's article on syphilis the retarding influences of this disease on growth and development are well brought out, and a precocious obesity, either general or confined to the lower part of abdomen, is specially referred to as one of the signs of the late hereditary form. As a prophylactic, the compulsory treatment of prostitutes by "606" was advocated for the acutely infectious lesions.

Miss May S. Garrett ably advocated the teaching in early infancy of deaf children by the lip-reading method, thus avoiding the herding together of deaf children and the all too frequent intermarriages of the deaf.

In the section on social work emphasis is laid on the neglect of the Christian churches.

The problem of truant children is solved by sending them to a self-governing colony, that is to say, a school managed on the prefect or monitor system. Any activity, such as music or drawing, congenial to the pupil is encouraged. Great stress is laid on the danger of the blind-alley occupations in the production of truancy.

Dr. Bosworth McCready contributes interesting clinical studies on familial congenital word-blindness, on a case of delayed power of speech production, and of epileptic attacks cured by removal of tonsils and

adenoids. A child unable to pronounce consonants was found to have partial word-deafness, and a boy, aged 17 years, convicted of larceny, was found to be suffering from chronic nephritis.

Mr. Fletcher alludes to the splendid outlook for the cure of stammering children, and to the fact that a considerable amount of this defect is due to imitation. He argues that considerable expense is justified in combating this malady by the help of the psychologist, as the whole trouble is due to an "unconscious complex crowding itself between the syllables and the words."

Prof. J. Putnam concludes the volume with remarks on Freud's method for exceptional children. The child finds himself confronted by a variety of means of obtaining sense gratification, *e. g.* by excitation of mouth, urethra or anus, all of which he is taught to repress. If the teaching fail, the child is liable to be morbidly sensitised, and may thus in after years enjoy the infliction of pain, thieving and other vices. On the other hand, if the attempt to break away from these unfortunate tendencies be too violent, the repressed craving is often pursued under another form.

C. R.

Third Report of Deptford School Clinic or Health Centre for the School Year 1911–1912. London: P. S. King & Son. Pp. 31.

It is a great pleasure to us to record the continued progress and extended scope of Miss McMillan's pioneer work and that of her able medical, dental and nursing staff. The medical report is contributed by Drs. Rosa Ford and Messrs. Eder and Burney. 3744 children received medical, and 2794 dental treatment. There were 509 cases of defective eyesight, which received prescriptions by the method of retinoscopy. Here, as in other clinics, the great majority of the errors of refraction were due to hypermetropia or hypermetropic astigmatism. It is interesting to note that there were 316 cases of conjunctivitis, but unfortunately no information is vouchsafed as to the infecting organism. Ringworm cases are referred to hospitals with X-ray apparatuses when possible; otherwise they are treated with oleate of copper. The duration of treatment by the latter method is not stated. Massage has been successfully employed by Miss Riddell for infantile paralysis and for constipation. As many as 697 operations for enlarged tonsils and adenoids have been performed under ethyl chloride anæsthesia, from which the children recover very rapidly and with apparently no trouble from post-anæsthetic vomiting. On the third day after the operation breathing exercises are begun and are continued for three weeks under Miss Riddell. The causation of these hypertrophies is attributed to rickets. In the infant consultations, dried milk powders provided under the name of "glaxo" are given. The results are said to be satisfactory, but it would surely have been better to have used some modification of cow's milk, *e. g.* citrated milk, which is more likely to be within the mental and financial capacity of the working classes.

The dentist still adheres to the microbe-laden toothbrush, but urges that it should be kept thoroughly clean. Nitrous oxide is the anæsthetic used for extractions rather than ethyl chloride.

The most important part of the work is the night camp. Here delicate and neglected children sleep, are fed, and are taught how to care for their bodies generally. The principle of the costly sanatorium is anticipated at a most favourable age. Miss McMillan has done so splendidly in the

squalid surroundings of Bradford and London that it is to be hoped that the wider field of rural England will soon be opened to her administrative genius. There the immediate surroundings of child life are in many localities as bad as in Deptford, but the ultimate prospects of success far more hopeful. C. R.

STAFFORDSHIRE COUNTY COUNCIL: ANNUAL REPORT OF THE SCHOOL MEDICAL OFFICER FOR THE YEAR 1911. Pp. 92.

THE report is prefaced by a few remarks by Dr. George Reid, who laments that with advancing progress in medical inspection there is no corresponding improvement in the cleanliness of the scholars. A similar state of affairs is, however, recorded in most county areas, and it is becoming incumbent upon all authorities to appoint special officers to cleanse His Majesty's lieges. The great value of medical inspection as an indicator of filthy and overcrowded homes is emphasised, and to the necessity of sanitary authorities taking a part in this work a forcible allusion is made.

Formerly the work of finding out if defects were remedied was left to the school attendance officers, who were able to report that 90 per cent. of the children had been treated. At present the lady doctors employed by this authority do this work, and report that only 50 per cent. obtain satisfactory treatment, of the eye cases rather more than half have received attention, and considerably less than half of the throat and nose ailments.

The question of ringworm receives considerable attention. A series of fourteen schools were put on the epidemic list, and were visited at four weekly intervals. All cases of ringworm were excluded. At three of the fourteen schools this process was successful, but at one school it failed. Mr. Priestley points out that it is only infection during school hours that can be controlled in this way, and announces that next year ringworm cases will be admitted to the schools under certain conditions. Like the majority of experienced inspectors Mr. Priestley denies that mouth-breathing and caries of the teeth have any connection, and argues correctly that as dirt is far less prevalent than caries, the former cannot be the ætiological factor of the latter. The poorer children have no worse mouths than their more favoured comrades.

Only thirteen cases of pulmonary consumption were discovered among the 19,948 inspected, but no details are given of the cases, or of their progress. Sixty-seven cases of other forms of tuberculosis are catalogued.

The report gives evidence of ungrudging labour faithfully performed.

C. R.

EDUCATION REPORT OF THE MINISTER OF PUBLIC INSTRUCTION, VICTORIA, FOR THE YEAR 1910–11. Melbourne, 1912.

THE Report is based on the examination of 9559 children by one male and two female physicians.

As in England so here the prevention and treatment of dental cases is the outstanding necessity; one school is mentioned where only one child in 500 had clean teeth.

In three schools there were large numbers of children with enlarged thyroid glands and frequent pulses, but unassociated with exophthalmos or nervous symptoms. The ætiology of these hypertrophies is uncertain.

A special report on tuberculosis in teachers is appended, and it is satis-

factory to note that only 11 were found out of a roll of 4500, but 10 of these were in an advanced and presumably infectious stage of the disease. It is gratifying to find that liberal arrangements are being made for their restoration to health—six months on full pay, being followed by six months on half pay.

There is an interesting note on the examination of sixteen aboriginals—nine girls and seven boys. The girls were well developed and above the average in height and weight. Enlarged tonsils, adenoids and dental caries were found in as high proportions as in Great Britain, but pediculosis was less serious than among the elementary school-children of other parts of the Empire. In disposition they are gentle and obliging, and in after years devote themselves to fishing rather than domestic or other forms of slavery.

C. R.

Infant Mortality: Third Report. By Dr. Helen MacMurchy. Toronto: 1912.

This report begins with a full account of the faulty methods of birth registration in vogue throughout the Dominion. Compulsory notification by the physician is on the Statute Book, but is laxly enforced.

Statistics are then given to illustrate the fearful mortality among Canadian infants, varying from 320 per 1000 in Ontario to 111 in Nova Scotia.

Interesting hints on breast-feeding are forthcoming, and Dr. Eric Pritchard's valuable pioneer work on the test-feed is acknowledged. The best directions ever published on the proper method of cleansing the feeding-bottle and teat are produced in this report, and these are followed by directions for making a cheap form of home-made refrigerator.

The insanitary conditions of the Canadian towns are figured in several excellent photographs, and should certainly be sent to the emigration offices. Enough has been said to show that the report contains several items of great practical interest, but it is somewhat disjointed, and it is at times difficult to comprehend the sequence of the author's statements. C. R.

Etat actuel de la pédiatrie en Pologne. Par M. Mogilnicki (Lodz). Varsovie: 1912. Pp. 40.

This interesting little pamphlet, which is a reprint from the '*Przeglad Pedyatryczny*,' or '*Polish Journal of Children's Diseases*,' contains a short account of the progress of pædiatrics in Poland,, a description of the children's hospitals, crêches, and "gouttes de lait" in Russian, Austrian and German Poland, a list of Polish medical journals, and a bibliography of Polish articles on children's diseases from 1900 to 1912. J. D. R.

Gymnastique Orthopédique. By Dr. P. Rédard. Paris: A. Maloine. Pp. 220, with 129 illustrations and 2 plates. Price not stated.

This is a work upon remedial exercises written by an orthopædic surgeon; it therefore deals with the subject with a breadth of view and a realisation of the limitations of the possibilities of gymnastics that are often lacking in the writings of those who practise only physical therapeutics. Dr. Rédard also is well versed in the various rival schools of gymnastic treatment and committed to none in particular; he selects from all, describing those

methods which he himself finds useful. Thus in the treatment of torticollis he ignores to a large extent the Swedish methods which are based upon rule of thumb, carefully enumerating instead his own methods of stretching the cervical muscles. Under spinal curvatures, on the other hand, the general exercises are based largely upon the Swedish system, with the addition of Klapp's creeping exercises, but the passive corrective movements are methods of his own. The exercises and manipulations are clearly and briefly described in such a way as would enable the reader to carry them out himself. And although naturally exception may be taken to many of the views expressed in a work which is largely personal, the methods and views of a surgeon of Dr. Rédard's experience are bound to be of great use to others.

The illustrations, chiefly taken from photographs, are good in almost every case, showing the requisite points.

Incidentally Dr. Rédard's belief in gymnastic methods is well illustrated by his statement that torticollis after operation should be treated solely by exercises and manipulations, and that apparatus should be given up. This view, although expressed by him in his work upon torticollis, published in 1898, and practised by a few surgeons in England, has not yet obtained general recognition in this country. R. C. E.

MOTHER AND BABY: OUTLINES FOR A YOUNG MOTHER ON THE CARE OF HERSELF AND HER BABY. By SELINA F. FOX, M.D., B.S., Senior Physician of the Bermondsey Medical Mission for Women and Children, late House-surgeon of the Clapham Maternity Hospital, etc. London: J. & A. Churchill, 1912. Price 1s. 6d. net.

WE have pleasure in welcoming this little book, the aim of which is well indicated by the sub-title. The teaching throughout is sound and practical, and the writer of the book has acquired the art of placing the subject before her readers in simple, unambiguous language. After the two opening chapters, in which are considered the preparation of the mother and preparations for the baby, she deals with the hygienic management of infancy and concludes by discussing baby's troubles and first-aid in the nursery and the treatment of emergencies. The remarks on infant feeding are most sensible. The book is evidently intended for the well-to-do, because many of the recommendations are inapplicable to cases where "necessity is the mother of invention." We think it would have been better not to have inserted the prescriptions on pages 180 and 181, but apart from that we do not think anything has been included to which exception might be taken. We feel sure the book will meet with the success it well deserves. J. A.

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Original Articles.

MULTIPLE CALCIFICATION ("CALCINOSIS") IN THE SUBCUTANEOUS TISSUE.

By F. PARKES WEBER, M.D., F.R.C.P.,
Senior Physician to the German Hospital, London.

THE patient,* a German girl, A. G—., aged 7 years, was admitted to the German Hospital on July the 30th, 1912, on account of the presence of a large number of hard nodules in the subcutaneous tissue of the extremities and the portions of the trunk adjoining the extremities. Most of the nodules are smaller than an average pea, but some of them, especially those on the buttocks and about the knees, are much larger, the larger nodules having apparently arisen by the coalescence of several smaller nodules. The face, head, thorax and abdomen are practically free. On the child's admission to the hospital the skin over one of the nodules was ulcerated, and the skin was inflamed and adherent over one or two others, but the nodules, as a rule, give rise to no pain or tenderness, and seem to have developed without the child being aware of their existence. The lymphatic glands in the groins and right axilla, and some in the neck, are moderately enlarged. The liver and spleen cannot be felt, and the child seems

* The case was shown and described at the Clinical Section of the Royal Society of Medicine on October the 11th, 1912.

to be free from any visceral disease. The urine contains no albumin or sugar. There is no fever. Brachial systolic blood-pressure, 110 mm. Hg. Ophthalmoscopic examination (right eye) shows nothing abnormal. Blood examination (Dr. G. Leopold and Dr. H. Rosenbusch, October the 8th, 1912): Hæmoglobin, 70 per cent.; red cells, 4,070,000 per cubic millimetre of blood; colour index, 0·9; white cells (after a meal), 11,200 per cubic millimetre of blood. The differential count of the white cells gives: Polymorphonuclear neutro-



FIG. 1.—Skiagram of the pelvis and upper part of thighs to show the numerous subcutaneous calcareous concretions, especially about the hips.

philes, 65 per cent.; small lymphocytes, 27 per cent.; large lymphocytes, 2 per cent.; large mononuclears, 3 per cent.; transitionals, 2 per cent.; eosinophiles, 1 per cent.; mast-cells, none in the count. The red blood-corpuscles appear normal. The coagulation time (estimated by Sir A. E. Wright's tubes, at 25° C.) was about three minutes. On October the 7th, 1912, Dr. G. R. Ward kindly estimated the calcium index of the blood by W. Blair Bell's method, and found it to be 1·36, as against a normal average of about 0·9.

According to the history obtained, the presence of hard subcutaneous nodules was first noticed twelve months before the patient's

admission to the hospital, and since these were detected many others had appeared. One little nodule near the right knee became very prominent and discharged spontaneously six weeks before admission. In regard to the patient's past history, she is said to have been



Fig. 2.—Skiagram of lower limbs to show the numerous subcutaneous calcareous concretions, especially about the knees.

subject to skin eruptions, but the chief point is that in November, 1909, she was under treatment at a fever hospital for scarlet fever, and that from that time to August, 1910, she suffered successively from diphtheria, paresis of the lower extremities (diphtheritic paralysis ?), a skin eruption somewhat resembling lichen ruber, pneumonia, an abscess in the right axilla and an abscess at the back

of the neck, a corneal ulcer (marantic ?) of the left eye, and left-sided otorrhœa. The corneal ulcer perforated (giving rise to considerable prolapse of the iris), but ultimately healed up again. During the latter period of this succession of illnesses the patient was

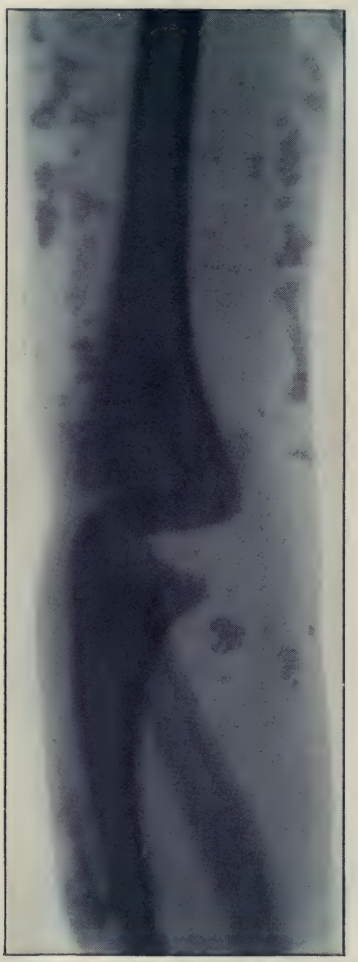


FIG. 3.—Skiagram of upper extremity about the elbow to show subcutaneous calcareous concretions.

in the German Hospital. She left the hospital on August the 1st, 1910, but was readmitted in September of the same year for temporary fever of uncertain origin. Since that time the child's condition seems to have remained satisfactory until the appearance of the subcutaneous nodules first attracted the parents' attention about August,

1911. In regard to the family history there is little to be said. The father, a traveller, is a healthy-looking man, who has never suffered from any venereal disease. The mother, aged 35 years, subject to epilepsy, has had no miscarriages or abortions. Of the patient's four brothers and one sister, one brother had rheumatic fever and another had tuberculous disease of the left ankle-joint (the others said to be healthy).

That the subcutaneous nodules in the present case consist largely of calcareous material has been proved both by Röntgen-ray examina-

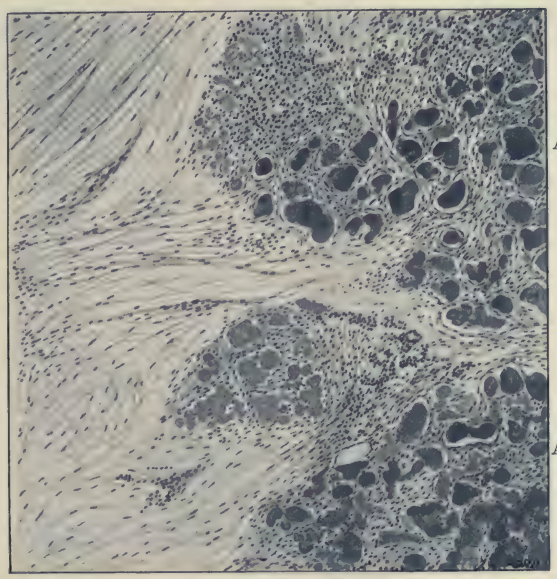


FIG. 4.—Part of the edge of an inflamed calcareous nodule from the right forearm. Drawn from a decalcified microscopical section, stained with hæmatoxylin; magnified 55 times. On the right of the picture are variously shaped islands (A) of structureless material, apparently the necrotic *débris* marking the site of minute concretions, the lime salts having been extracted by the weak hydrochloric acid used for decalcification. These decalcified particles are contained in a meshwork of connective tissue and inflammatory small-cell infiltration. On the left of the picture is subcutaneous connective tissue.

tion and by chemical analysis. The skiagrams (Dr. G. Dorner) show how numerous these calcareous infiltrations are (there must be over a hundred of them in the patient's limbs, see Figs. 1 to 3), and suggest likewise that the larger nodules are formed by the coalescence of smaller foci. The nodules occasionally become inflamed and softened, the skin over them becomes adherent, and if they were left to themselves thin purulent matter mixed with calcareous *débris* would

doubtless be gradually extruded through a fistulous opening in the skin. Two such softened nodules have been excised and examined (Dr. G. Dorner). The gritty material was found to consist of calcium carbonate and calcium phosphate. (The addition of weak sulphuric acid under the microscope was followed by the separation of bubbles of carbonic acid gas and by the formation of acicular crystals of calcium sulphate ; the ammonium molybdate test showed the presence of phosphates.) No tubercle bacilli or other microbes could be detected in the contents of the nodules. Culture tubes of glycerine-agar, glucose-agar and egg-agar were inoculated, but remained sterile. Another concretion was examined for uric acid by the murexide test, but with negative result. Microscopical sections of a softening nodule (see Fig. 4) show that the nodules consist of a sponge-like matrix of subcutaneous connective tissue, in the interstices of which the granular particles of lime salts are embedded. Thus the accompanying illustration, from a microscopical section stained with hæmatoxylin, shows many structureless islands (necrotic *débris*), from which the lime salts have been removed (by the weak hydrochloric acid ordinarily used for decalcifying), embedded in a spongy framework of connective tissue, which is undergoing inflammatory small-cell infiltration (inflammatory softening) previous to the process of "breaking down" and discharging. The nodule, in fact, consists of granules of calcareous material held together by a fibrous framework, and there is nothing of the complete (stone-like) calcification met with in calcified tuberculous (caseous) foci and in calcified gummata. The diffuseness of the process of calcification explains why, in this kind of calcification, the concretions cannot be "shelled out" when an attempt is made to remove them.

Further skiagrams (kindly taken by Dr. Finzi) of the abdomen, thorax and axillæ give no evidence of calcification in the axillary, intra-thoracic, or intra-abdominal lymphatic glands, or in any of the thoracic or abdominal viscera.

In regard to the ætiology of the calcareous nodules, syphilis and tuberculosis may be practically excluded by reason of the various above-mentioned data. Moreover, both Wassermann's reaction for syphilis (tried at the Lister Institute) and von Pirquet's cuti-reaction for tuberculosis gave a negative result; the complete absence of fever is likewise an important point. The case is not at all like one of myositis ossificans, for the muscles (at all events as yet) seem not to be affected ; there is no abnormal formation of true bone ; and the inflammatory softening of the calcareous nodules is different to anything which occurs in myositis ossificans. Moreover, the child

has no shortness (microdactyly) of the great toes, such as has been recorded in several cases of myositis ossificans. The scattered literature of the subject shows, however, that the child's condition can be regarded as one of a definite disease, as distinct at least as myositis ossificans and many other "diseases."

"Calcinosis" is probably the most convenient term to be used for the disease in question, and more advanced cases have been described under the headings "Calcinosis interstitialis," and "Calcinosis universalis" (see 15). Apparently the chief danger is the risk of septic infection associated with the "breaking down" and discharge of the calcareous nodules. There is a condition, occurring in rather older subjects, which possibly represents a more chronic and less severe variety of the same disease (8, 12, 13, 16). In that condition the calcareous deposits occur chiefly in the subcutaneous cushions of the finger-tips and at the elbows, about the olecranon, and sometimes in the toes. Such cases have been recently demonstrated in England by Scholefield and Weber (11) and by Haldin Davis (3); and still more recently by W. K. Hunter at the Glasgow Medico-Chirurgical Society (October the 4th, 1912); the patients are all subject to Raynaud's phenomena and most of them gradually develop a sclerodermatous change, chiefly in the fingers ("sclerodactylia"). Sir William Osler has met with two such cases of sclerodermia associated with subcutaneous calcification.

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(4) Derville, L.—'Brit. Med. Journ.,' 1900, i, Epitome, p. 17. (A remarkable case of multiple calcification of the skin in a man, aged 39 years.)

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SUB-AORTIC STENOSIS.*

By Hugh Thursfield, M.D., F.R.C.P.,

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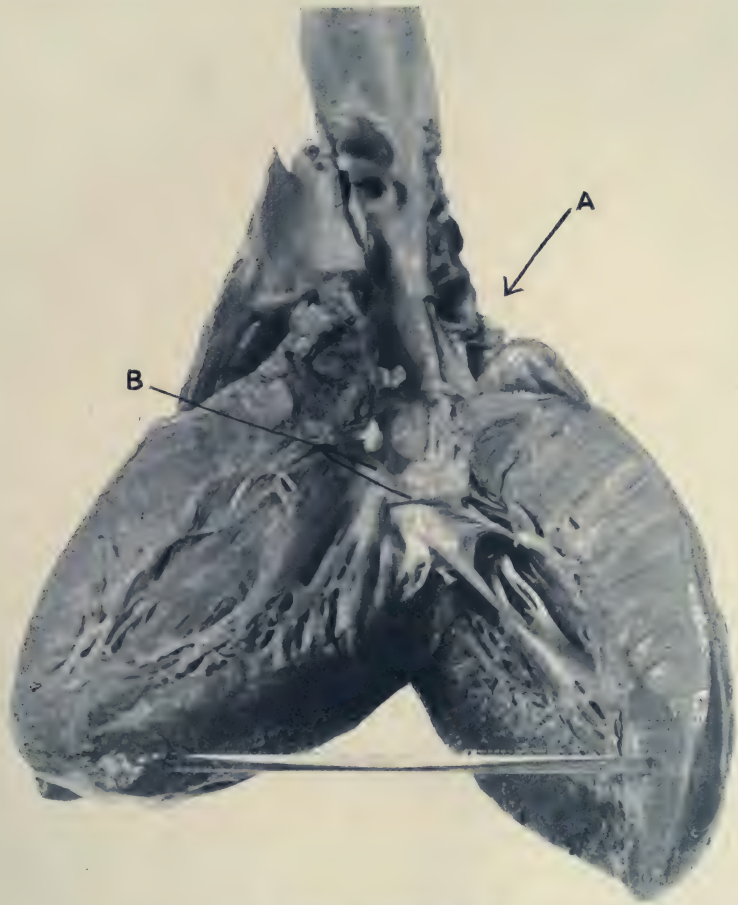
H. W. Scott, M.R.C.S., L.R.C.P.

The specimen of sub-aortic stenosis described was taken from a boy, aged 14 years, who was brought dead to St. Bartholomew's Hospital in May, 1912.

He was seated at work when he suddenly fell from his seat; when picked up he was able to swallow some water, but though brought directly to the hospital—a short distance—he was dead on arrival.

* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on January the 24th, 1913.

On enquiry it was found that he had been an in-patient seven years previously, suffering from a mild attack of faucial diphtheria. Reference to the notes taken at that time showed that he then had a loud systolic murmur heard over the whole præcordia and the



A = Aortic semilunar valve.
B = Sub-aortic fibrous ring.

back; the point of maximum intensity was the aortic area in the second right intercostal space. No mention is made of a thrill nor of the character of the impulse. The diagnosis suggested was "patency of the septum ventriculorum." Apart from this illness he had enjoyed fair health, but was known to have a "weak heart," and from time to time had attended the casualty department for a cough.

He was the fourth of five living children, all of whom enjoyed good health; besides these children his mother had four miscarriages.

The body was that of a tall, muscular, well-developed boy; there was no clubbing of the fingers, and no external malformation or injury. On opening the thorax the heart was seen to occupy a larger area than normal, the greater part of this increase being due to hypertrophy of the left ventricle. The right side of the heart was moderately dilated; the auricle showed some thickening of its walls, and the ventricle was in comparison with the left small and thin-walled, and empty of blood; the tricuspid and pulmonary valves were normal. The left auricle on the other hand was greatly hypertrophied, the thickness of the wall being at least $\frac{1}{8}$ inch; the dilatation was slight. The mitral orifice and cusps, except for the band to be mentioned, were normal. The ventricle was enormously hypertrophied and considerably dilated. The aortic orifice was narrowed by a fibrous ring situated on the septum ventriculorum immediately below the undefended space and extending over the posterior aspect of the mitral aortic cusp. The diameter of this ring at its widest was less than a quarter of an inch; its edges were smooth and free from vegetations. The aortic semilunar cusps were thickened and the two coronary cusps fused into one, so that the orifice was much narrowed. Immediately above the non-coronary cusp was a thin line of fibrous thickening in the wall of the sinus of Valsalva; and at the level of the ductus arteriosus, which was closed, was a transverse line of thickening, which appeared to have produced a slight narrowing of the lumen of the aorta. Otherwise the intima of the aorta was normal, and no abnormality was noticed in any other vessel. The heart weighed 14½ oz.; the pericardial membrane was normal.

Examples of sub-aortic stenosis have been seldom recorded. Dr. Norman Moore, in 1882, described a specimen, which is still in the museum of St. Bartholomew's Hospital. It was obtained from a lad, aged 18 years, who was admitted to the wards in May, 1882, with dyspnœa and swelling of the feet and ankles, under the care of Sir William Church. The clinical notes state that he was markedly anæmic and generally œdematous. His pulse is described as "feeble and thready," 120 a minute. The heart's impulse was felt in the nipple line 1 in. below the nipple; the cardiac dulness extended to the middle of the sternum. A loud double murmur was audible over the whole cardiac region, in the axilla, and all over the back; its maximum intensity was at the apex and down the sternum.

No mention is made of a thrill, nor of the character of the impulse. The patient was four weeks in hospital, with an evening temperature usually of 101° F., albuminuria, hæmaturia, and casts. He was said to have been always weak and subject to fainting fits.

At the post-mortem examination the pericardium occupied almost the whole of the exposed area, "almost the size of a man's head." The heart was freely movable in the fluid which distended the sac; this fluid was slightly turbid, but there were no flakes of lymph. "At the base of the heart was a hard mass, about 2½ in. by 2 in., exactly in the situation of the lower part of the thymus in a child." There was some, but no great hypertrophy of the heart. Just below the aortic valve was a thickened ring of fibrous tissue attached to the septum on one side, and to "the outer wall" (*sic*) of the heart above the mitral valve on the other. Above this ring the aortic cusps were competent and in no way abnormal.

The aorta was free from atheroma. At the origin of the innominate artery there was an opening, almost circular, one inch in diameter, the mouth of an aneurysmal cavity partly filled with organised clot—the mass referred to above. The liver and spleen were very large, and the kidneys weighed 28 oz., and were pale, swollen, with capsules which split easily.

Professor Keith, in the Hunterian Lectures of 1909, had seen only four hearts which showed this condition; one was the specimen just mentioned, one in the museum of St. George's Hospital, one in Guy's, and one which was lost in the fire at Toronto University.

Another example was recorded by Fletcher and Beattie from the Royal Infirmary, Edinburgh, in 1904; it was obtained from a girl, aged 17 years, who had enjoyed good health to the age of fifteen. This patient was dyspnœic but not œdematous; the pulse-rate was 120 a minute, the beat very feeble, and almost obliterated on raising the arm. The apex-beat was feeble somewhat far out and down. On auscultation a loud rough and prolonged diastolic murmur was heard all over the heart and at the root of the neck; this was most intense at the inner end of the third left intercostal space and down the sternum; at the apex there was a short systolic murmur. The right border of the heart was not beyond the right sternal border. At the autopsy there was a mass of dense fibrous tissue between the pericardium and the epicardium. The pulmonary artery was narrow at its orifice and the valve segments smaller than normal, but they showed no degenerative changes. The aortic valve-segments were much thickened and the left anterior cusp was ulcerated and perforated, the perforation surrounded by recent vegetations. Imme-

diately above the posterior cusp was a mass of vegetations on the wall of the aorta, and beneath these a small aneurysm. Five mm. below the aortic cusps was a thickened calcareous ring 6 mm. in diameter. The aorta was healthy. No mention is made of clubbing of the fingers or of a præcordial thrill.

Shennan, in 1897, described a specimen in a male, aged 19 years. This boy was poorly developed with marked clubbing of the fingers, but there was no œdema. There was marked episternal pulsation, a marked systolic thrill to the right of the middle line in the first and second intercostal spaces, and a blowing systolic murmur so loud in the aortic area as to be audible five inches from the chest-wall. The heart showed hypertrophy of the left ventricle, and the same sub-aortic fibrous ring as has been already described. There were recent vegetations on the ring, extending upwards to the aortic cusps.

This rare malformation has been explained by Prof. Keith as follows : "The part of the fœtal heart from which the infundibulum is derived—the bulbus cordis—normally disappears completely from the left side of the heart, but a trace of it may persist, giving rise to the condition known as sub-aortic stenosis ; . . . thus while the abnormality on the right side of the heart depends on an arrest of growth, that on the left depends on an arrest of atrophy."

The specimen which we have recorded differs from the others in the fact that it presents further evidences of malformation in the fibrous thickenings present in the wall of the aorta. That situated at the level of the ductus arteriosus is especially important, since it represents the constriction which is normally present in the fœtus at this spot, the persistence of which leads to the abnormality known as coarctation of the aorta.

It is obvious from the descriptions given above that the condition is not incompatible with good general health, at any rate, when it is present only in a slight degree, and so long as there is no infection of the abnormal structure or of the valve ; and we would suggest that it affords a probable explanation of no inconsiderable number of those cases of congenital heart disease, who, without cyanosis or clubbing of the fingers and with good general development, have a loud rough systolic murmur heard at its maximum down the sternum. Such cases are not very uncommon among London school-children, and are detected in the course of routine examination, not by reason of any failure of health.

The physical signs which we should expect to find in such a case are (i) evidence of an hypertrophy of the left ventricle ; (ii) a loud

systolic murmur with its maximum intensity in the second and third intercostal spaces on the right side, and conducted down the sternum; and (iii) a systolic thrill, most marked in that area. It is, however, remarkable that the thrill is only recorded in one of the four cases noted.

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A CASE OF PATENT DUCTUS ARTERIOSUS, WITH SKIAGRAM.

By Reginald Miller, M.D., M.R.C.P.,
Physician to Out-patients, St. Mary's Hospital and Paddington Green Children's Hospital; and

G. Harrison Orton, M.D.,
Medical Officer in charge of the X-ray Departments, St. Mary's Hospital, Royal Free Hospital, and Mount Vernon Hospital for Diseases of the Chest.

The skiagram reproduced here is taken from the following case, an out-patient at St. Mary's Hospital.

Girl, aged 11 years. The mother states that the child's heart was recognised as abnormal at birth. The child has suffered from occasional brief attacks of pain round the heart, and is said to be rather short of breath on exertion. There is no history of any cyanosis at any time.

The child is intelligent and looks normal except for being rather short for her age (4 ft.). There is no cyanosis even on exertion. The fingers show no clubbing.

Heart.—The heart is dilated one inch to left and right. The upper limit of the heart is abnormal, dulness being easily detected in the first and second interspaces, next to the left margin of the sternum, of a width of about one and two inches in these spaces respectively (Gerhardt's "band of dulness.") On inserting the finger into the episternal notch pulsation is easily detected. On palpation there is a double thrill over the pulmonary area, but no diastolic shock. On auscultation there is a very loud "mill-wheel" murmur

audible over most of the chest, front and back, with its area of maximum intensity in the second and third left intercostal spaces, near the sternum. The pulmonary second sound is audible,

The blood-pressure in the radial arteries is unequal—104 mm. in the right and 110 mm. in the left.

Skiagram.—The heart's shadow shows some enlargement to right and left. The continuation upwards of the shadow is very distinct, the line of the left border being continued obliquely upward to the left sterno-clavicular articulation.

In our case the physical signs in the chest are just those usually attributed to a patent ductus arteriosus. There is no definite



evidence, either by signs or symptoms, of any associated malformation. Patency of the ductus existing alone is one of the rarer lesions in congenital heart disease, but it is well recognised that in such a case the symptoms are usually very few and slight, although the physical signs, at all events in later childhood, are very marked.

The band of dulness close to the left border of the sternum above the level of the third rib was described in cases of patent ductus by Gerhardt many years ago, and was confirmed by François-Franck. Since the arrival of radiography this abnormal condition has been fully verified by observations on the peculiar shape of the heart's shadow in such cases. One of the earliest references to such a skiagram dates back to 1898, when Zinn referred to a case in which the abnormal shadow could be detected by Röntgen rays but not with sufficient clearness for reproduction in his article. Schrötter alludes to the radiographic shadow in 1901, and apparently a print

of it is included in his atlas of radiography, published about this time, to which we have not been able to gain access. More recently good reproductions of the characteristic shadow have been published by Arnheim, Hochsinger, Carpenter and others.

Hochsinger raises an interesting point in the diagnosis of such cases as show the abnormal shadow corresponding to Gerhardt's band of dulness. He states that such a shadow would be shown, not only in cases of patent ductus, but also in cases where there is an aneurysmal dilatation of the pulmonary artery with a closed ductus. This second type of case he says has not been diagnosed during life, but has been described by Dresler, Arnheim, Krzyszkowski and Wiczkowski, Weinberger and Burke. Hochsinger reproduces in his article a skiagram which exactly resembles the one shown here, but which he regards as due to an aneurysmal pulmonary artery with a closed ductus. He bases this diagnosis upon the fact that no pulsation could be detected in the neck (episternal notch).

If this point of differentiation be accepted it is interesting to note that in our own case episternal pulsation is readily appreciated, so that a diagnosis of patent ductus is justified in spite of the exact similarity in Hochsinger's skiagram to our own. In our case, too, there is a difference in the pulse tensions at the two wrists—a point in the diagnosis of patent ductus on which some have laid considerable emphasis, although discounted as inconstant by other observers.

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RETROSPECT OF OTOLOGY, 1912.

By Macleod Yearsley, F.R.C.S.,

Senior Surgeon to the Royal Ear Hospital; Otologist to London County Council Deaf Schools; Consulting Aural Surgeon to the Royal School for Deaf and Dumb Children at Margate, etc.

The prevailing note in the literature of otology for the year 1912 seems to have been one of prevention, and this is, no doubt, largely due to the increased activity of school medical inspection. This is undoubtedly a step forward.

In *anatomy and physiology* two papers are to be noted; the study of the structure and development of the mastoid and its influence on the evolution of otitis media by Mouret (B.M.S.F., p. 364) and the mechanism of auditory ossicular chain by Hugo Frey (J.L., p. 687).

Among the work done from the aspect of *clinical examination* must be mentioned that of Constantin on the technique of auditory examination in infancy (J.L., p. 353), the direct examination of the nasopharynx and Eustachian tube by Macleod Yearsley (J.L., p. 269), and the discussion on the value and significance of hearing tests at the Royal Society of Medicine (J.L., p. 368), in which Barr, Scott, Milligan, Dundas Grant, Macleod Yearsley, Jenkins, Westmacott and Hugh Jones took part. Another discussion, of even greater importance, although, perhaps, indirectly, was that between the combined Sections of Otology and Laryngology at the British Medical Association's meeting in Liverpool, on the education of the specialist in laryngology and otology. This was very representative, the speakers being—Watson Williams, Birkett, Mygind, Westmacott, Horne, Woods, Permewan, Thomson, Jackson, McKenzie, Downie, Hunt, Waggett, Macleod Yearsley and Hugh Jones (J.L., p. 541). Other items to be noted are: McKernon (Y.M.J., xviii, p. 25) on aids to diagnosis in otology and their clinical significance, and Milligan (J.L., p. 477) on radiography in the determination of mastoid disease. Two other papers which are noteworthy are "The Nasopharynx and its Relations to Other Regions" by Macleod Yearsley (C.J., xxxix, p. 377) and "The After-treatment of Nose, Throat and Ear Operations" by Goldsmith (J.L., p. 646).

As usual, *middle-ear suppuration and its complications* claims a bulky literature, much of which may be discarded. The most important contributions are as follows. Acute suppurative otitis media was discussed at the British Medical Association's Liverpool

meeting (J.L., p. 549) by Woods, Rundle, Alexander, Mygind, Ballenger, Milligan, Kerr Love and Watson-Williams. Braun (M.R., ii, p. 697) wrote on the significance and management of chronic discharging ears, and Macleod Yearsley (S.H., p. 69) on the treatment of suppurating ears in school-children. The vaccine therapy in diseases of the ear, nose and throat has received attention from Dabney (N.Y.M.J., i, p. 273).

The mastoid operation was discussed as regards its indications by Hastings (P., ii, p. 597), and Oppenheimer (M.R., ii, p. 975) considered the pro and con of maintenance of the retro-auricular opening after the radical procedure. Ballance (L., ii, p. 428) has returned to the scene with a paper on epithelial grafting as a means of effecting the sure and rapid healing of the cavity left by the complete operation.

An excellent paper is that of Citelli (J.L., p. 635) on true serous lepto-meningitis cured by operation, with considerations on this interesting otitic complication, and Logan Turner (J.L., p. 297) has made valuable contributions to the serum and vaccine therapy in the treatment of the intra-cranial complications of middle-ear suppuration. Cases of cerebellar and cerebral abscesses of otitic origin in children have been published by Savariaud and de Lamothe (J.M.P., xxxii, p. 171). Another interesting case was recorded by Nicoll and Fielder (A.P., xxix, p. 585), in which mastoiditis was followed by general sepsis, with symptoms of tetanus.

The predominant note of prophylaxis mentioned above is illustrated by three papers, one by Kerr Love (J.L., p. 554) on the prevention of deafness in *non-suppurative deafness,* one on the prevention of deafness in children by Macleod Yearsley (B.J.C.D., ix, p. 396), and the third by Macleod Yearsley (P., i, p. 653) on the meaning of adenoids to children.

Some of the papers already mentioned have been in connection with *school hygiene,* as also are the following, dealing more especially with *deaf-mutism*—the pathology of deaf-mutism, by Makuen (N.Y.M.J., i, p. 1189), the oral method of educating the deaf, by Kerr Love (J.L., p. 384), and the causes leading to educational deafness in children, with special reference to prevention, by Macleod Yearsley (L., ii, pp. 138 and 228).

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M.R.—'Medical Record.'
P.—'Practitioner.'
S.H.—'School Hygiene.'
Y.M.J.—'Yale Medical Journal.'

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, January the 24th, 1912.

Mr. A. H. Tubby, *President, in the Chair.*

Case of (?) Fibro-lipoma.—Miss A. L. J. Kann showed for Mr. Duncan C. L. Fitzwilliams a boy, aged 2 years and 8 months, who had been under the care of a foster-mother for two years. When the foster-mother first took care of him she noticed small lumps on the inner back part of the right arm. This gave rise to no trouble. There was no swelling on the chest at that time, but in December last she noticed a swelling on the right side of the chest; latterly this has become a little larger, and she therefore brought the child up for treatment.

The child never complained of pain in the lumps nor do they seem tender. On examination there are four small swellings, distinct from one another, on the back of the arm, and in the axilla they feel fibrous, some being larger than others. The axilla is filled with a mass about as large as an orange, which bulges forward the anterior axillary wall and appears in front under the pectoral muscles. It is firm, with well-defined edges, and slight lobulation. It is movable on the structures beneath and under the superficies. There is no impulse on coughing or crying.

The child is very backward and undersized, with marked signs of rickets. The fontanelle is still open.

Case of Lymphangioma resembling Hernia of the Lung.—Miss Kann also showed for Mr. Duncan C. L. Fitzwilliams a boy, aged 6 years. The mother has noticed that something was wrong with the right side of his neck when he cried. She states that she noticed this vaguely when she was washing the child, and she can recall it as far back as twelve months ago, but she took little notice of it until it began to get larger during the last three months. In November the child got whooping-cough, and this lasted until the end of December. During this time his mother noticed that the lump got very large in his neck during the spasms of coughing.

On examination, there is a fulness of the root of the neck above the right clavicle and behind the sterno-mastoid muscle. It is ill defined and quite soft, and small nodules can be felt in it. It seems to disappear under the

fingers towards the region of the subclavian artery. On coughing or straining the root of the neck fills up and bulges in a prominent manner, and on palpation the tumour again subsides. Percussion is satisfactory as there is so little resistance, and though breathing sounds are heard they are probably transmitted.

The condition at first sight is extremely like a hernia of the apex of the right lung, but there is no indrawing and deep inspiration, nor can any ring be felt in the deep part of the neck, and the diagnosis is that the condition is an extensive lymphangioma with large loculi, the large portion of the tumour being situated in the chest.

Two Similar but somewhat Unusual Heart Conditions in Sisters.—Dr. R. C. Jewesbury.—(1), aged 8 years. The mother was told by her doctor that this child's "heart was affected" when she was three weeks old. The child was not cyanosed at birth and has never been noticed to get blue. She has suffered from dyspnœa on exertion for the last three or four years and has complained of growing pains during the last two years. No history of acute rheumatism. She has had measles twice, but no other illness. Heart enlarged. Apex-beat in sixth space in nipple line; systolic murmur at apex conducted out, second sound accentuated. In the second and third left space a loud, rumbling murmur, partly presystolic and partly systolic, is heard, and a well-marked thrill is felt in this position. At the pulmonary area a systolic murmur is present, conducted upwards to the neck. Aortic sounds: First sound soft, otherwise normal.

(2), aged 10 years. No heart disease was ever suspected until she was brought to hospital a few days ago. She had always been a healthy child. No history of rheumatism; heart not enlarged. In second and third spaces a well-marked thrill (systolic), and over this area a prolonged, continuous, booming murmur is present, very similiar to that heard in her sister's case.

Three Cases of "Calvé's Pseudo-coxalgia."—Mr. R. C. Elmslie.—Case 1: Boy, aged 10 years. In November, 1909, he fell and twisted his right foot: attended an out-patient department for a week and recovered. About three weeks later he was kicked on the right hip, which was noticed by the mother to be much bruised; from that time he limped and had occasional pain in the knee, especially after lying down. He had no pain at night. On examination in March, 1910, the hip movements except full hyper-extension were free; the limb was $\frac{3}{8}$ in. shorter than the left, the shortening being above the great trochanter; there was little wasting of the thigh. A skiagram showed that the acetabulum was clear and smooth, but that the epiphysis of the head of the femur was a little flattened, its surface uneven, and its upper edge proportionately thicker than it should be; the neck of the femur appeared shorter and thicker than normal. He was kept in bed for three weeks and the condition did not alter. Subsequent skiagrams showed no important change, although the flattening of the epiphysis and the thickening of its upper border became rather more evident.

Case 2: Boy, aged 8 years. The parents in this case had not noticed anything wrong, but were informed after a school medical inspection that the boy limped. He was brought to the hospital in January, 1912. At that time there was little limitation of the abduction of the right hip-joint, most marked in the flexed position; other movements were free. The shortening was not more than $\frac{1}{4}$ in., and there was a little wasting in the thigh. A skiagram was taken, and the appearances were found practically identical

with those in the last case. The parents were then informed that no treatment would be necessary.

These two cases agree as to clinical signs and skiagraphic appearances with Calvé's description, but neither was observed in the acute stage described by him.

Case 3: Girl, aged 9 years. At the beginning of 1912 this child had an attack of chorea and rheumatism in the right leg, and in the summer she was in hospital for chorea. Whilst convalescent from diphtheria in August she was noticed for the first time to limp, but she had at this time no pain or disability. She was brought to hospital again in December. No injury to the hip could be remembered. The right hip is kept flexed, further flexion is free, extension is limited, abduction abolished, and rotation in both directions limited. The limb is $\frac{3}{8}$ in. shorter than the left, this shortening being above the great trochanter. A skiagram shows the head of the femur to be deformed in much the same way as in the previous cases, but in addition the upper part of the acetabulum is eroded, and the head of the femur displaced a little upward; the femoral neck is short and thick.

This case differs from the first two and from those described by Calvé in the changes in the acetabulum and in the partial upward dislocation.

Case of Congenital Syphilis with Enlargement of the Liver and Spleen.—Dr. J. Walter Carr.—Girl, aged 12 years. No definite family history of syphilis can be obtained, but the patient is the third child, and her mother had two miscarriages between the births of the second and third children. The girl was born at full term, and there is no evidence that she had any symptoms suggestive of syphilis during infancy. She was in the hospital, March, 1911, for syphilitic disease of the soft palate, with pain and difficulty in swallowing. At present the uvula is destroyed and the remains of the soft palate are adherent to the posterior wall of the pharynx; there is a perforation on the left side of the palate communicating with the left nostril. The liver is much enlarged, reaching nearly to the umbilicus; it is hard, smooth, and not tender. The spleen is also enlarged and hard, extending about 3 in. below the costal margin. There is no albumin in the urine. There is a slight thickening of the middle third of the right tibia. The eyes are healthy. Blood examination: Total red cells, 3,750,000; total white cells, 6500; polymorphonuclear neutrophiles, 61·8 per cent.; polymorphonuclear eosinophiles, none; mononuclears—large 18·7 per cent., small 19·4 per cent. Two nucleated reds were seen in counting 350 white cells. Hæmoglobin, 100 per cent. Wassermann reaction strongly positive. Lately the child has got thinner and has complained of loss of appetite and diarrhœa.

Case of Hirschsprung's Disease.—Dr. J. Walter Carr.—Boy, aged 9 years. Was treated about six years ago for severe constipation. Since then he has always been more or less constipated, requiring a great deal of purgative medicine. He was admitted to hospital on January the 10th, and for six weeks previously his bowels had only been opened by injections. A number of scybalous masses were felt in the hypogastric region; these have been removed by enemata, but there has been no spontaneous action of the bowels. The boy looks fairly healthy. The abdomen and the lower part of the chest are greatly enlarged, and the increased length between the ensiform cartilage and the umbilicus is very marked. The whole abdomen is very tympanitic, and there is marked visible peristalsis. The liver, spleen and

heart are all much displaced upwards, the heart's apex-beat being in the third left space. The rectum appears to be normal.

Arterio-sclerosis with absence of both Radial Pulses in a Girl, aged 15 years.—Dr. Charles W. Chapman.—The patient was admitted to hospital on November the 20th complaining of cough and orthopnœa on exertion or exposure to cold. There was rheumatism on the mother's side.

History.—No special illness until four years ago, when she suffered from loss of power in the legs with loss of speech, the attack lasting fifteen minutes. There were several similar attacks during the following six months. Bronchitis two years ago. She is said to have had chalky lumps on her abdomen last summer. When first seen the area of cardiac dulness was increased in both directions, that on the left side being 9 cm. beyond the mid-sternal line; the apex-beat was in the sixth space at the extreme margin of the dulness. The finger-tips were slightly congested. Catamenia not commenced. Teeth very bad.

On admission the cardiac dulness was as stated; the subclavians were visibly pulsating, and aortic pulsation could be felt by the finger in the aortic notch, the brachial and radial arteries were hard and devoid of pulsation, the iliac arteries were visibly pulsating, but only feeble pulsation could be felt at the left post tibial and not at all on the right; the apex beat was in the sixth space and the action cantering. Urine: Specific gravity 1022, albumin a trace, sugar absent, no casts or red blood-cells. Wassermann negative.

Since admission the child has gained weight and has generally improved; the cardiac dulness is diminished and she can lie down in comfort. There is still a cloud of albumin. The skin on the abdomen is dusky, but no cyanosis or blanching is present.

Case of Interstitial Keratitis and Osteo-periostitis of the Tibiæ treated with Neo-salvarsan.—Mr. Sydney Stephenson.—Boy, aged 6 years.

Family history.—Has three sisters, aged respectively 9, 8 and 2 years, all apparently healthy. The mother gives no history of infection. Ten years ago she was affected with some nasal trouble, for which she was treated as an out-patient at the Hospital for Diseases of the Throat, Golden Square. One child, born prematurely at the seventh month, died when aged 7 weeks from some cause unknown to the mother. No miscarriages or stillbirths. The father is at present under treatment for stricture of the urethra.

History of illness.—Nine or ten months ago the patient is said to have suffered from "rheumatic pains" in backs of hands, shoulders, both knees and both legs. Although medically treated he did not improve much. Just before last Christmas the father noticed a film over the child's right eye, and then found that he could only tell day from night with the affected eye.

State upon admission on January the 9th, 1913.—No signs of syphilis in face, cranium, or teeth. The inguinal and cervical glands are slightly enlarged and "shotty" to the touch. The skin is in a state of xeroderma. Nodes are present on the middle third of each tibia, being more marked on the right side. The overlying skin is not discoloured, and the swellings themselves are not tender. There appears to be the remains of a similar node about the middle of the right ulna. Chest and heart normal. The Wassermann reaction was positive.

Right eye.—Trifling ciliary redness and photophobia. The pupillary area

of the cornea shows a disk-like interstitial opacity, while the peripheral parts of the cornea are almost clear. The anterior epithelium covering the opacity looks as if it had been breathed upon. The pupil, although the eye is being treated with atropine (2 gr. to the ounce, three times a day), is no larger than 4 mm. It is probably fastened down by posterior synechiæ. Tension normal. Vision, perception of light.

January the 20th, 1913: Neo-salvarsan, 0·6 gr., injected intra-venously.

The following pathological specimens were shown.

Congenital Renal and Ureteral Anomaly.—Dr. J. D. Rolleston.—Boy, aged 12 years. Death from generalised paralysis, following very severe faucial and nasal diphtheria, on forty-seventh day of disease. Violent attacks of abdominal pain during last twenty-four hours of life. Albumin present in the urine from the third to thirty-eighth day. Amount of urine passed during first eighteen days of disease ranged from 21 oz. to 37 oz. in the twenty-four hours. The specimens showed (1) single or asymmetrical left kidney, $4\frac{3}{4}$ in. long, 2 in broad, $1\frac{1}{2}$ in. thick, 6 oz. in weight; (2) partial duplication of ureter, the upper branch, 4 in. long, supplying the upper third, and the lower branch, $3\frac{1}{2}$ in. long, supplying the lower two thirds of the kidney; (3) union of the two branches of the left ureter, 3 in. from the bladder; (4) the right and left ureteral orifices in the bladder; and (5) a right ureter which is patent from the bladder to its blind upper extremity. The right kidney, renal artery and vein and right suprarenal were absent. No abnormalities of genital, circulatory, or other systems.

Specimen of Non-development of Cerebrum.—Dr. G. A. Sutherland and Mr. H. W. Perkins.—The specimen was from a child, aged 9 weeks, who had been shown at the November meeting (*vide* British Journal of Children's Diseases, 1913, x, *p.* 24). The head resembled that of a normally developed infant of this age, the circumference being $13\frac{1}{8}$ in. The anterior fontanelle was widely open, measuring 2 in. in the sagittal direction and 1 in. in the coronal. The sutures were not united. On opening the skull a quantity of blood-stained fluid escaped, amounting to 9 oz. On centrifuging this the blood-cells were thrown down, leaving a clear supernatant fluid of a straw colour.

The dura mater appeared to be normal, and the falx cerebri was fully developed and present throughout its whole length. The hæmorrhagic fluid present was apparently on the cavity of the arachnoid. This cavity was partially divided in the occipital region by a few fine, cobweb-like adhesions, present chiefly on the left side. The brain, lying on the base of the skull, was very small and covered with thickened, œdematous-looking pia arachnoid, which concealed its outline. On the removal of this membrane it was seen that the brain was extremely ill-developed as regards the cerebral lobes. The brain weighed 80 grm. Each cerebral hemisphere measured 9 cm. in length, 6 cm. in width, and 3·7 cm. in depth, taking the maximum measurements. The two halves of the dwarfed cerebrum on each side of the falx cerebri were roughly symmetrical, except that posteriorly into the occipital lobe on the left side a large hæmorrhage had taken place, the clot being recent and unorganised.

The middle third of the cerebral cortex on each side presented numerous convolutions, which, although small and narrow, were separated by well-defined sulci. The anterior parts of the cortex were extremely thinned, and

so intimately associated with the pia arachnoid that it was difficult to recognise any well-marked convolutions or sulci. The appearance here was that of numerous small cavities, like a honeycomb, bounded externally by the thinned cortex and pia arachnoid. Definite convolutions and sulci were present at the posterior pole on the right side, while on the left side the posterior pole was the seat of the extensive hæmorrhage referred to above. This hæmorrhage formed a roughly spherical clot about 25 mm. in diameter, limited externally by the thinned-out cortex and pia mater, and suggesting from its appearance the possibility of its having arisen from bleeding into a thin-walled cyst. The basal surface of the cerebral lobes presented a crinkled appearance, well-defined convolutions and sulci being absent. The cerebellum, medulla, pons and peduncles presented a normal appearance. All the cranial nerves could be identified, and the blood-supply and blood-vessels were normal so far as could be determined.

A transverse section through the right cerebral lobe at the level of the corpus callosum showed that the lateral ventricle was slightly distended, and that the ependyma and choroid plexus were normal. The brain substance beneath the ependyma had a spongy, reticulated appearance, and in the floor of the ventricle, beneath the lining membrane, was a small cavity about the size of a pea, filled with blood-clot. The left ventricle was but slightly enlarged. The foramen of Monro was patent and normal. The third and fourth ventricles were not enlarged, and the patency of the "iter" was established. The cortex of the mesial aspect of the cerebrum, when cut into, showed numerous small spaces about the size of a hemp-seed.

The following papers were read:

Sub-aortic Stenosis.—Dr. H. Thursfield and Mr. H. W. Scott (*vide* p. 104).

A Note on Mongolism.—Dr. F. G. Crookshank.—There can be no doubt that mongolism is really a form of infantilism, of special nature, and that tends to modification at puberty. But its significance is, apparently, phylogenetic rather than ontogenetic. There are, it is well known, to be traced in mongoloid idiots certain physical characteristics that are not easily recognised in racial Mongols. But many, if indeed not all of these, are homologous with those anthropoid apes, or rather, of orangs. Indeed, it may be said that the peculiarities of mongoloid idiots are, speaking generally, homologous with those peculiarities which, amongst the anthropoid apes, are either best marked in the orangs, or distinguish the orangs from the gorilla and the chimpanzee. That the orangs are the Mongols amongst apes has long been recognised, and the anthropogeny of Haeckel, as well as the more recent system of Klaatsch, is familiar to all.

I would draw attention, not only to the characters of the skull, the facial bones and the skeleton generally, but to such secondary characters as are displayed by the hair, skin, mucous membranes, lips, tongue, ear, eyes and teeth, to certain visceral peculiarities, and to the characters of the cerebrum, cerebellum, pons and medulla, which apparently account for certain mental characteristics, as well as for the nature of some functional manifestations. These points and others have been discussed in a paper published in the 'Universal Medical Record' for January, 1913, but I have thought the subject of sufficient interest to justify me in bringing it before the notice of this section. The considerable amount of information that has been sent to me from different sources since the publication of this paper,

while rendering necessary one or two modifications of statement, has greatly strengthened my belief in the accuracy of the contentions therein put forward.

I would like to allude to some remarks made several years ago by Dr. R. Langdon Down, reported in the 'Journal of Mental Science' for January, 1906, wherein the possibility of Mongolism being a reversion to a type "further back than the mongol stock" is hinted at. In a Paris thesis published in 1908, Mlle. Lutrovnik, while hinting at the simian morphology of mongoloids, evidently only just missed the real point by reason of the fact that she instituted comparisons with the chimpanzee and gorilla, and not with the orangs.

Dr. Douglas Hunter, of the Clifton Asylum, Yorkshire, some years ago was struck by the evident resemblances between mongoloids and orangs, and commenced a study of the matter. He did not pursue his researches, but, since the publication of my paper, has generously sent me his material, in which I am glad to find abundant confirmation of my own observations.

CLINICAL SECTION.

Friday, January the 10th, 1913.

Diphtheritic Hemiplegia.—Dr. J. D. Rolleston.—Boy, aged 5 years, as admitted to hospital on September the 3rd, 1912, with very severe faucial and nasal diphtheria on the fourth day of disease. Twenty thousand units of antitoxin given on admission, and another two doses of 24,000 units on each of the following days. Cardiac dilatation and irregularity occurred on the sixth day and was accompanied by vomiting, which persisted till the fifteenth day, and by enlargement of the liver. Knee- and ankle-jerks lost on twenty-first day. Sudden onset of right hemiplegia and aphasia on twenty-first day. Palatal palsy, shown by regurgitation of fluid through the nose, occurred on twenty-ninth day, ciliary palsy on thirty-third day, and pharyngeal palsy, necessitating rectal and nasal feeding, from thirty-sixth to fifty-eighth day. Other palsies noted were paresis of rectal and vesical sphincters, and of the diaphragm during the occurrence of pharyngeal palsy. Albuminuria from ninth to forty-first day; no serum phenomena beyond slight urticarial rash of one day's duration on nineteenth day.

Condition on discharge from hospital on December the 23rd, ninety-four days after onset of hemiplegia: Some spasticity of right arm and leg, and slight right facial palsy, extensor plantar response, ankle clonus and combined movement of trunk and pelvis on right side. Intelligence intact, but speech limited to a few syllables. Could walk with very little support. On January the 10th he could walk alone with a slight limp, otherwise his condition remained unchanged.

Case of Polio-encephalo-myelitis associated with Optic Neuritis, Nephritis, and Myocarditis.—Dr. Arthur Hertz and Dr. W. Johnson. A boy, aged 12½ years, was admitted to hospital on March the 5th, 1912, for paralysis of the left side, which had developed suddenly the same day.

On admission his pulse was 54, and temperature 97° F. He was semi-conscious; he could not move his left arm or leg at all, and there was some weakness on the left side of the face. His right pupil was smaller than the left. Both knee-jerks were present, the left being exaggerated; an extensor plantar reflex, diminished abdominal reflex, and ankle-clonus were present

on the left side only. There was some twitching of the right side of the face. Incontinence of urine and fæces was present. The heart was greatly dilated and a loud systolic murmur was heard at the apex, but there was no history of rheumatism, scarlet fever, or previous cardiac disease. The case was diagnosed as cerebral embolism.

The patient became fully conscious the next day. A tremor now occasionally affected the right arm and leg. There had never been any rigidity of the arm and only slight rigidity of the leg, but in the course of three days both became completely flaccid and the tendon reflexes disappeared, but the extensor plantar reflex remained. The knee-jerk and ankle-jerk disappeared from the right side also, but there was only a very slight degree of weakness in the right leg. The temperature was now taken in the rectum and found to be 101·2° F. The pulse was still very slow, but the cardiac condition was otherwise unaltered. On March the 8th complete paralysis of the left external rectus muscle developed. Lumbar puncture showed that the cerebro-spinal fluid was under increased pressure; it contained numerous lymphocytes and polymorphonuclear cells in approximately equal numbers. Definite optic neuritis was present, which was more marked on the left side than on the right.

On March the 16th some atrophy of the left side of the tongue was noticed. On March the 20th marked hæmaturia developed, and the urine contained many pus-cells and granular casts in addition to blood. The urine became normal again in about ten days.

The patient gradually regained some power in the left leg and to a less extent in the left arm. Slight wasting of the affected muscles took place, but there was no loss of electrical excitability. In the course of the next four months the knee-jerks reappeared on both sides; the knee-jerk and arm-jerks became exaggerated on the left side, on which well-marked patellar and ankle clonus also developed. The plantar reflex remained extensor on the left side. The temperature gradually fell to normal in the course of three weeks. The systolic murmur became less distinct and the heart less dilated. The paralysis of the left external rectus did not disappear until October.

At the present time the patient has recovered to a very considerable extent. There is still some evidence of optic neuritis, and the left arm is very weak; the left leg is comparatively slightly affected. The jerks on the left side are still exaggerated, and the plantar reflex extensor. The urine is now normal, and the heart is normal except for an occasional faint systolic apical murmur.

The subsequent history showed that the original diagnosis of embolism was incorrect; acute polio-encephalo-myelitis seems a more probable diagnosis. The same toxins which affected the nervous system probably caused the myocarditis and nephritis.

NEUROLOGICAL SECTION.

Thursday, January the 16th, 1913.

Disseminated Sclerosis in a Boy.—Dr. James Collier.—Boy, aged 13 years. Family history and past history *nil*. Increasing difficulty in walking one year; staggers about but never falls. Thick, stuttering speech

six months. Unsteadiness of hands three months. No sphincter symptoms; sight good; no pain.

Present condition: well-nourished, under-sized boy. Viscera normal. Intelligent, laughs easily; speech jerky, slow, and at times barely intelligible. Jerking movements of head. Vision and discs normal. Pupils normal. Movements of globes good, accompanied by nystagmus, or by extreme oscillation of head. No oscillation of objects. Intention tremor head and arms (left more than right) very well marked. Spine and trunk normal. Some increase of tone in legs; power good; jerky movement of legs during voluntary movement. Incurvation of little fingers. Sensation normal. Sphincters normal. Gait ataxic, broad base (much improved lately). Reflexes: All jerks brisk, no abdominal reflexes; double extensor response.

Paralysis of Right Lower and Middle Trapezius.—Dr. George Johnston.—A girl, aged 9 years, in August, 1911, suffered severe pain in the right upper arm below the point of the shoulder. This was followed after a few days by progressive weakness of the right shoulder and sticking out of the shoulder-blade.

Present condition: When standing at rest, with the arm dangling, the lower angle of the scapula is slightly higher than on the left side, the vertebral border being at the same distance from the spine as the left scapula, but the point of the right shoulder is much dropped, the clavicle sloping down to the right, while the vertebral column is curved with convexity to the left. When she rests her hand on her hip, or if she holds the arm out towards the right front, the scapula immediately becomes much winged, with the lower angle cocked upwards and inwards, and instantly strong contraction of the supra- and infra-spinatus is set up, causing swelling and hardening of these muscles. The upper portion of the trapezius is normal, as are also the rhomboids, serratus, levator anguli scapulæ, deltoid, and all the other muscles. No analgesia or other loss of sensation to be made out.

Electrical reactions show well-marked RD of the lower and middle trapezius on the right side.

The lesion suggested is a neuritis of the cervical supply of the trapezius, though usually a lesion of the spinal accessory causes atrophy of the whole trapezius, lower as well as upper.

Philadelphia Pediatric Society.

December the 10th, 1912, Theodore Le Boutillier, M.D., President.

Dental Conditions in Children.—Dr. George C. Küsel, by invitation, read a paper on "Feeding in Relation to the Teeth." Two important factors affect the state of preservation and the freedom from decay—simplicity of food and mastication. Alveolar pyorrhœa is due to lack of exercise of the teeth. The pregnant woman needs more nourishment even than a strong man; this especially is needed for keeping her teeth in good condition. The gastric secretion is more free and stronger with food which is liked. Small quantities of food call forth stronger juices than large quantities. A con-

siderable part of the food ingested is required to carry on mastication, digestion and metabolism, leaving a relatively small proportion ultimately available for tissue building. Protein food is a necessity. Animals cannot survive upon a nitrogen-free diet. The fats and carbohydrates protect the protein from oxidation. Calcium salts are especially needed by the organism. It is wrong to end a meal with carbohydrates; meat or vegetables are far better. An excess of sour fruits has a decalcifying action upon the teeth.

Dr. Frederick R. Stathers, by invitation, spoke upon "Orthodontia," which he defined as treatment of irregularities of the teeth affecting the adjacent parts. It is closely connected with medicine, the object of both being the restoration and maintenance of normal function. A definite relation exists between the teeth, their size, shape and position in the arch with the rest of the bones of the head in members of the same species. The shape, size and position are the best adapted to the food-habit and environment of the species. He showed the evolution of the alveolar socket and of the complex tooth form of mammalia to be due entirely to food habits and the environment of the species. He reviewed the macroscopic arrangement of the bone in the maxilla and mandible, and the architectural arrangement of the bones of the face. To show the development of human teeth, he showed slides from photographs of human skulls, the cortical plates of which had been removed, showing the teeth in their crypts. These slides showed skulls from birth to adult up, and proved that growth had been interstitial, due to the force exerted by the developing teeth. The forces exerted by the tongue, the muscles of mastication, deglutition, and respiration, and the action of the inclined plane of the teeth in mastication, all bear a very important part in moulding the jaws and dental arches. The object of orthodontia is to assist nature in establishing a normal balance of these forces.

Dr. Merrill S. Weeks, by invitation, spoke of the need of the medical profession supporting orthodontia. Ninety-five per cent. of all cases coming to him are associated with mouth-breathing. These children have a narrow dental arch, with the anterior teeth protruding, preventing the lips from closing. The palatal arch is narrow and high in its vertical position, thus restricting the area of the nasal tract. Septum deviation is common. There is lack of development or abnormal development in these cases, or both. Probably the abnormal development begins in the nose and throat, and the deviations in the dental field result. Uncivilised races have a far better developed dental arch and less misplaced teeth than civilised races; the former masticate their foods. Children must be taught to masticate well early. All treatment of these conditions, to be successful, should be attempted early in the child's life.

Dr. Piercy B. McCullough, by invitation, discussed the prevention of the diseases of children's teeth, specifically the consequences of dental caries. Glandular involvement is common, while septicæmia with death has been recorded as the result of a tooth infection. The first sign of impaired general health follows abscess, or a fistula discharging on the face at the angle of the lower jaw. Dental caries is controllable by dental operations only. Mechanical cleaning of the mouth is an important precaution, as, also, is the use of the tooth-brush. Mastication is the greatest cleansing agent, and filling is the only remedy to restore masticatory efficiency. Dental prophylaxis consists in preventing and curing abscess in temporary teeth, and in remedying structural imperfections in the permanent teeth.

Société de Pédiatrie, Paris.

November the 12th, 1912. (*Bulletin No.* 8.)

Nitrogenous and Saline Retention in Bottle-fed Babies.—M. H. Barbier read the notes of five cases bearing on the subject of azotæmia in infants brought forward by MM. Nobécourt and Maillet at the previous meeting. His contention was that babies brought up on the bottle took in, for the same volume of milk, a larger quantity of albumin and salts, that the stools of such infants also contained a larger quantity of proteids and salts, and that larger quantities of these substances were absorbed. Such infants looked obese, but were below normal weight and had a pallid, waxy look, their muscles were flabby and the face puffy. They were brought to hospital for digestive troubles accompanied by more or less marked nervous symptoms resembling meningitis. Change of diet cured the condition.

Hypertrophy of Thymus.—M. Victor Veau.—With regard to M. Weill's treatment of this condition by X rays, the speaker stated that he had had excellent results by the same method. For the last eighteen months he had given up thymectomy and treated all these cases with X rays with entire success.

New Treatment of Scoliosis, Abbott's Method.—MM. Calvé and Lamy showed several patients treated by this method, *i. e.* correction obtained by forcible flexion of the spinal column. The children were placed on a hammock with unequal sides. The convexity of the curvature was placed towards the short side of the hammock. The child's pelvis being fixed, the concave side was stretched and put up in plaster. Six weeks later when it was removed the spine seemed in a condition of hyper-correction. A celluloid apparatus was then used.

M. Ombrédanne thought the principle good, but the technique capable of improvement.

Amphoric Bubble.—MM. Variot and Rousselot showed specimens from the autopsy on the case they reported at the previous meeting. A kind of hour-glass pleurisy existed (*pleurésie en sablier*) with two distinct cavities separated one from the other, one subdiaphragmatic and one interlobar, joined by several fistulous tracks across softened pulmonary tissue.

Purpura, Pseudo-hæmophilia, and Repeated Epistaxis cured by X rays.—MM. Triboulet, Albert Weill and Paraf showed a girl, aged 7 years, who for three months had had attacks of severe hæmorrhage with purpura and abdominal crises. Red cells 2,800,000, white 15,700. Anti-diphtheritic serum, hæmostyl and splenic extract were injected without result. X-ray treatment over the region of the spleen and long bones gave immediately good results. Three applications were given.

Azotæmia and Athrepsia.—MM. Nobécourt and Maillet said that azotæmia, rare in older children even during nephritis, was common in the very young and particularly in athrepsia. Out of fifteen cases of this disease, examination of the cerebro-spinal fluid showed in seven instances

more than a gramme of urea per litre and eight times more than half a gramme. On the other hand, out of twenty-seven children in whom cachexia was due to other causes such as tubercle, broncho-pneumonia, syphilis, hypotrophy, etc., the amount of urea was below half a gramme. Putting aside acute grave gastro-intestinal disturbance in which the amount of urea is always high, and taking into consideration only subacute or chronic cases, azotæmia is found in athrepsia but not in the other cases. According to Widal the principal symptoms suggestive of azotæmia were progressive dry cachexia, drowsiness and anorexia, which formed a syndrome indicative of "the athreptic form of azotæmia in infants."

Radiography in the Pulmonary Tuberculosis of Infants.—MM. Ribadeau-Dumas, Weill and Maingot read an interesting paper illustrated by diagrams showing shadows made by pulmonary foci, enlarged glands, peribronchial sclerosis or pleurisy. They insisted on the frequency of tuberculous lesions at the base of the lung at an early age at which the occurrence of tubercle was about 13 per cent. Auscultatory signs were usually absent but the cuti-reaction was invariably positive.

Heliotherapy in Tuberculous Peritonitis; Three Serious Cases rapidly Cured.—M. d'Oelnitz, of Nice, reported these cases. Ascitic forms extending rapidly without marked constitutional symptoms were rapidly influenced by the sun-cure. It was otherwise with grave ulcerative forms, in which the reaction was apt to be excessive and dangerous. This treatment also gave excellent results in subacute forms with fever in the early stages.

Autopsy on a Case of Congenital Hemispasm of the Lower Lip.—MM. Variot, Bonniot and Caillian described the histological changes, viz. intense rarefication and some atrophy of the muscular fibres, changes in the myoplasm and nuclei, and marked hyperplasia of the sarcolemma with cellular regression.

Vincent Dickinson.

Abstracts from Current Literature.

Medicine.

Epidemic poliomyelitis in Norway (*'Journ. Amer. Med. Assoc.,'* 1912, lix, *p.* 782).—**Francis Harbitz** gives a *resumé* of the history of poliomyelitis in Norway since it was first recognised as a distinct disease in 1820. The first epidemic of fourteen cases was reported by Dr. A. Christian Bull, in 1868. From 1886 the more widely known epidemics have occurred. The author takes the view that the disease is due to a virus which easily spreads from person to person. He has seen three cases of the disease among nurses in charge of cases. According to Norwegian experience the period of incubation is short—two to four days—although it may be longer. "Latent" cases the author thinks must be assumed to be possible; for example, the only case occurring in a prison population was one of a young woman who had been in solitary confinement for three months. It must also be assumed

that infection can be spread by healthy carriers. Insects (*e.g.* fleas) are possible, but not proved conveyors. Epidemics occur without reference to changed climatic conditions, but not in the cold months. They occur chiefly in rural districts and vary very much in malignancy. Preventive measures adopted in Norway (1904) include notification, isolation and treatment of each case as infectious for three weeks, with disinfection at the end of this period. REGINALD MILLER.

Acute poliomyelitis (*'Prag. med. Woch.,'* 1912, XXXVII, *p.* 203).—**Thure Hellström** gives a short account of the Swedish epidemic which broke out in the spring of 1911. The majority of the patients in the hospital were children from seven weeks to eleven months old. The initial symptoms were fever, vomiting, and headache. Diarrhœa was unusual. There were several cases of difficulty in micturition requiring the catheter. Sleeplessness was a troublesome symptom in the older children and adults. Paralysis was of course the most terrible symptom. There was extraordinary diversity in the character of the disease. Paralysis of the lower extremity was the commonest form; paralyses of the cerebral nerves occurred, and some patients died from a hindrance to respiration either through the paralysis of the muscles or of the respiratory centre. The mortality was 20 per cent. No proof of direct contagion could be obtained in men or monkeys. The patients were kept as a rule four weeks in the hospital, and compulsory notification was ordered. Every care was taken to avoid contagion through the staff or the patients. When a case occurred in a school the whole class, including the teachers, had to remain fourteen days at home; the school-room and the books, furniture, etc., were disinfected. When circumstances allow the unaffected children, after control, should be sent away from the infected area, but visits must be forbidden. M. D. EDER.

Infantile paralysis (*'Lyon. méd.,'* 1912, CXIX, *p.* 788).—**J. Froment** maintains that the symptoms and clinical course of epidemic infantile paralysis are incontestably different from those of sporadic cases. Abnormal forms are frequently seen during epidemics but less frequently than the classical form. Participation of the meninges is constant in the initial stages of the epidemic form. In spite of the clinical differences both forms are one and the same disease. Investigations with regard to the antibody, serum diagnosis and experiment completely establish the identity of the abnormal and classical form. Pathological research confirms this; the lesions are multiple and diffuse, so that the term "acute anterior poliomyelitis" is not an exact one. A lesion of the motor cells of the anterior horns constitutes the essential lesion, but it cannot in any case be considered the only lesion, nor even the primary one. VINCENT DICKINSON.

Sporadic and epidemic poliomyelitis (*'Med. Record,'* 1912, II, *p.* 237).—**W. H. Thomson** is of opinion that sporadic and epidemic poliomyelitis differ from one another as much as smallpox and urticaria or rheumatism and gout. This view he bases on the differences found post mortem in the two conditions and upon the communicability of the epidemic disease. He urges that the epidemic disease should be more closely investigated when it makes its appearance in sparsely populated districts, since the overcrowded condition of cities renders it impossible to trace contagion with certainty. He thinks that were this done the contagiosity of the epidemic disease would be much more clearly established. REGINALD MILLER.

The cerebro-spinal fluid and blood in acute poliomyelitis (*'Amer. Journ. Dis. Child.,'* 1912, III. *p.* 153).—**G. Draper** and **F. W. Peabody** examined 233 cerebro-spinal fluids from 69 cases and the blood of 71 cases with the following results: The cerebro-spinal fluid during the first few weeks after onset of symptoms shows in the great majority of cases deviation from the normal. Fluids in the early stages, especially before the onset of paralysis, show an increased cell count with a low or normal globular content. The polymorphonuclears at this stage may form 90 per cent. of the total, but most fluids show lymphocytes and large mononuclears almost exclusively. After the first few weeks the cell count usually drops to normal, and there is frequently an increase in the globulin content. A slight increase in globulin may persist for seven weeks or more. Analogous changes are found in the cerebro-spinal fluid of abortive cases. The blood showed a constant and marked leucocytosis, in several cases as high as 30,000. In only one was there leucopenia. Besides the increase in total cells there is an equally constant increase of polymorphonuclears of 10 to 15 per cent. above the normal, and a diminution of lymphocytes of 15 to 20 per cent. The other forms of leucocytes show no abnormalities. J. D. Rolleston.

Symptomatology of infantile paralysis (*'Amer. Journ. Obst.,'* 1912, LXV, *pp.* 509 and 704).—**Jacolyn Manning**, in two articles comprising some thirty-eight pages, gives an excellent account of acute polioencephalo-myelitis. Many illustrative cases chiefly drawn from recent American epidemics are given, and the symptomatology of the disease as detailed here reflects the serious nature of some of the epidemic examples. Amongst much that is interesting the author's classification, modified from the work of others, deserves mention. The following types are described: (1) Arrested type (the "abortive" type of other authors); (2) spinal myelitic type; (3) acute ascending or descending spinal paralysis (Landry); (4) acute bulbar type; (5) encephalic type; (6) meningitic type; (7) neural type; (8) rapidly fatal institutional disease type. Reginald Miller.

An analytical study of twenty cases of infantile paralysis (*'Arch. Pediat.,'* 1912, XXIX, *p.* 155).—**A. Sophian** states that in anterior poliomyelitis the bright and rational mental condition contrasts strikingly with that of the dull and stuporose condition in meningitis. Slight neck rigidity and a little marked Kernig phenomenon differentiate the former from the latter. In poliomyelitis the temperature drops and the general condition improves with the onset of the paralysis, but in meningitis the palsy is accompanied by high temperature. In polioencephalitis the patient is dull and stuporous, but is clear and intelligent on being roused, contrasting with the disorientation, irritability and hyperæsthesia of the meningitic. The author lays stress on Macewen's sign—a tympanitic wooden note obtained on percussion over the fronto-parietal region, denoting hydrocephalus and frequently accompanied by ataxia. Polioencephalitis differs from tuberculous meningitis, its acute onset, its frequently extensive paralysis, and comparatively unimpaired sensorium. The author had three cases belonging to the myelitic, one to the Landry type, four abortive cases, twelve polioencephalitic forms; of the latter, five were hemiplegic, and two had ophthalmoplegia. The cerebro-spinal fluid is usually clear, but sometimes bloody. Globulin is present in the early stages, and may persist throughout the disease. With the onset of paralysis it usually disappears. The cells are moderately increased in the acute stages with a high lymphocytosis, while in

tuberculous meningitis there is a uniformly strong globulin reaction and a high cell-count. The fluid is always sterile in infantile paralysis.

CHRISTOPHER ROLLESTON.

Rapidly fatal institutional form of acute poliomyelitis (*'New York Med. Journ.,'* 1912, I, *p.* 1322).—**Jacolyn Manning** calls attention to the group of cases of acute polioencephalo-myelitis which were described under the above title by Macalister in the BRITISH JOURNAL OF CHILDREN'S DISEASES in 1905, II, *p.* 105. Very little more is known about this type of disease than at that date. Apparently no pathological evidence is yet forthcoming to support the view that these are cases of poliomyelitis attacking the respiratory and medullary centres. So little notice has been taken of this group of cases since our knowledge of poliomyelitis has increased that it is well that attention should be called to them again, in the hope of getting their nature investigated. The author quotes the occurrence of eight cases of sudden and unexplained death in babies in a Brooklyn institution in February, 1912, and suggests that they may have been examples of this type of poliomyelitis. Some of the cases quoted by Macalister were, however, of a more convincing nature, and showed the well-known seasonal incidence of poliomyelitis.

REGINALD MILLER.

Atypical incipient poliomyelitis (*'Med. Record,'* 1912, I, *p.* 563).—**H. B. Sheffield**, in discussing the diagnosis of atypical cases of poliomyelitis, adverts to the changes in the symptomatology of the disease brought about by modern epidemics. He gives good examples of atypical cases and describes the difficulties experienced in their diagnosis. The article is well illustrated.

REGINALD MILLER.

Pain in Heine-Medin's disease (*'Monatsschr. f. Kinderheilk.,'* 1912, X, *p.* 630).—**E. Tezner** finds in the initial stage of this disease there are four kinds of pain: (1) Hyperæsthesia of the skin; (2) spontaneous pains in the diseased extremities; (3) pains in the spine; (4) pressure pains in the peripheral nerve-trunks and muscles. He considers that these pains should be alleviated as quickly as possible by morphia.

F. R. B. ATKINSON.

Pathological changes of the pharyngeal mucosa an early symptom pathognomonic of poliomyelitis (*'New York Med. Journ.,'* 1912, II, *p.* 519).—**M. Neustaedter** states that, in the prodromal stage of poliomyelitis, we meet with the following constant symptoms: sudden onset, with fever, headache, drowsiness, pain in extremities on passive motion and on pressure along the spinal column, sometimes gastro-intestinal disturbances, sneezing, an anæmic, glistening, œdematous condition of the pharyngeal mucosa, with a serous, frothy transudate. The author lays stress upon this pharyngeal condition as, in his opinion, pathognomonic of the disease. If a lumbar puncture be made, the cytological findings will show a lymphocytosis, a positive reduction test with Fehling's solution, and a positive globulin reaction in the cerebro-spinal fluid.

MACLEOD YEARSLEY.

Pathologic study of a case of acute poliomyelitis (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 1180).—**A. L. Skoog** examined the brain and spinal cord of a case of a male, aged 19 years, who had died from this disease, and found that the coats of the smaller arteries were involved in the

inflammatory infiltration, and also that there existed an hydrops of an anterior horn-cell. He finds the perivascular tissue is most frequently and severely affected, and the adventitia nearly as frequently. All the coats of the veins are often affected. The large arteries show only perivascular changes, the moderate sized ones changes in the adventitia also, and the small arteries or arterioles changes in all their coats.

F. R. B. Atkinson.

The pathology and epidemiology of polioencephalo-myelitis (*'Birm. Med. Rev.,'* 1912, xx, *p.* 69).—**Leonard Parsons** discusses the modern view of this disease and the recent researches into its causation and spread. After rehearsing the evidence in favour of spread by direct contact where the disease appears in epidemic form over a small area, he shows that in larger areas, as in London or Birmingham, there is little to suggest that the spread of the infection is by this means. He was not able to trace in these districts any cases to bathing. He regards previous exanthemata as playing practically no part in predisposing to the disease, not 5 per cent. of his cases having suffered from an acute specific fever within three months of the onset of paralysis.

Reginald Miller.

A contribution to the ætiology of poliomyelitis (*'Journ. Amer. Med. Assoc.,'* 1912, lix, *p.* 785).—**M. Neustaedter**, from experimental evidence, concludes that the lymphatic circulation is the primary route for the infection of the central nervous system by poliomyelitis; the blood-stream he regards as a secondary route. The lymphatic circulation might be infected through the nasopharynx, lungs, or alimentary canal. The last two portals he excludes, and reviews his well-known experiments in support of the nasopharyngeal route of infection (*vide* British Journal of Children's Diseases, 1912, ix, *p.* 234). His view and work have received much support by the recovery of the virus in a viable state from the nasal, buccal, tracheal and intestinal mucus of twenty-one patients suffering from the disease by Kling, Wernstedt and Pettersson. Neustaedter has found that a very large percentage of his patients with poliomyelitis show a neuropathic taint in their families. Methods of dissemination of the virus and of the prevention of such dissemination are discussed.

Reginald Miller.

The mode of infection in epidemic poliomyelitis (*'Journ. Amer. Med. (Assoc.,'* 1912, lix, *p.* 1371).—**S. Flexner** considers the disease is transmitted by a virus that enters and escapes from the body by the mucous membrane of the nose and throat, and can be transported by active infected carriers, and probably by healthy passive carriers of the specific virus. Its extension is limited by a high natural insusceptibility to infection existing at all ages.

F. R. B. Atkinson.

Possible transmission of poliomyelitis through the dog (*'Journ. Amer. Med. Assoc.,'* 1912, lix, p. 2312).—**H. F. Langhorst** suggests that in addition to the transmission of the disease by dust and flies poliomyelitis may be acquired through the dog. The writer bases his theory on the fact that dogs are numerous in the countries which have suffered most from poliomyelitis, and that dogs are also more numerous in country districts where the disease is most prevalent. Two cases are quoted in support of this view. One was a man whose dog had been unable two or three weeks previously to stand on its hind legs. On one or two occasions the dog had

licked his hand, on which there were a few scratches. The man contracted the disease and finally died. The other case was a boy, aged 6 years, whose extremities, chest and neck muscles became involved three weeks after he had been bitten by a pet dog. At the time of writing the patient was gradually recovering. T. R. WHIPHAM.

The possible agency of the bed-bug, Cimex lectularius, in transmitting poliomyelitis (*'Med. Times,'* 1912, XL, *p.* 112).—**J. V. V. Manning** regards inoculation as the most likely method of infection of man with poliomyelitis, and looks with grave suspicion on the bed-bug, which he would have termed "*Cimex paralyticus.*" That the bed-bug can migrate from the sick to the healthy was proved by an adventure of his own, wherein he saw such an insect leave a sick man and proceed, "with the lurching gait of the distended bug," towards a lady, a goal which it did not live to reach. Statistical evidence of spread of infection in this way is not very satisfactory as yet; in the Massachusetts epidemic of 1909 only 20 per cent. of the families were known to have been exposed to attacks of *cimex.*

REGINALD MILLER.

Subdural injections of epinephrin in experimental poliomyelitis (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 367).—**P. F. Clark** states that epinephrin, when injected into the spinal subdural space, has proved to be of value in experimental poliomyelitis, in particular prolonging life in moribund cases. He thinks that in the human disease such injections might be beneficial, especially in the ascending type of the disease. The drug acts by controlling exudation by its action on the blood-vessels.

REGINALD MILLER.

Sudden death following spinal puncture for diagnosis (*'Med. Record,'* 1911, I, *p.* 487).—**E. Colie** records a case of death following lumbar puncture in an infant, aged 16 months. The child was extremely ill previous to the operation; "at rounds the child was presented as a moribund case of gastro-enteric infection; the little one was in profound coma." Lumbar puncture was performed at once as there were signs of cerebral compression and 10 c.c. of clear fluid were withdrawn. Five minutes later the child became rigid and asphyxiated and died within an hour. Post mortem there was revealed a cerebral abscess. REGINALD MILLER.

Macroscopically latent meningitis and encephalitis in acute infections (*'Beitr. z. path. Anat. u. z. allg. Path.,'* 1912, LII, *p.* 540).—**S. Oseki** records four groups of cases, seven of which occurred in children, aged from 9 weeks to 15 years, suffering from pneumonia, tonsillitis, or tuberculosis. In the first group, though meningitis was diagnosed clinically, there was no naked-eye evidence of the condition post mortem; microscopically, however, meningitis and encephalitis were found. In the second group, in which meningitis was diagnosed clinically, encephalitis only was found post mortem on microscopical examination. In the third group meningitis only was found. In the fourth group meningo-encephalitis or meningitis which had been latent during life was found post mortem microscopically.

J. D. ROLLESTON.

Meningitis due to bacillus typhosus (*'Med. Press and Circ.,'* 1912, I, *p.* 646). –**J. F. O'Carroll** and **F. C. Purser**.—A boy, aged 9 years, was

admitted to hospital as a case of typhoid fever. The abdomen was distended and the urine was cloudy, but the spleen was not enlarged and there were no rose-spots. Widal's reaction was positive. Lumbar puncture gave issue to a slightly turbid fluid without hypertension, containing 1100 leucocytes per millimetre, two thirds of which were polymorphonuclears and one third mononuclears, a few bacilli, mainly intra-cellular, which gave the reactions of the typhoid bacillus. Death preceded by nuchal rigidity and Kernig's sign took place three weeks from the onset. Necropsy: Intestinal lymphoid tissue congested but nowhere ulcerated. Spleen normal; meninges and convexity of brain covered with greenish-yellow exudate from which a bacillus similar to that obtained by lumbar puncture was isolated. J. D. Rolleston.

Epidemic cerebro-spinal meningitis in the infant (*'Thèses de Paris,'* 1912-13, *No.* 109).—**G. R. G. Badaud.**—Epidemic cerebro-spinal meningitis is very frequent in the infant. It differs from that in the adult by its insidious onset, the frequency of digestive troubles at the beginning of the disease, and by the inconstant or ill-marked character of ordinary signs of meningitis, the characteristic manifestation of the disease when at its height being an intense rigidity of the whole body. Numerous varieties are met with, *e. g.* a fulminating form, a relapsing form, which may end in recovery or cachexia with hydrocephalus and death, an abortive form, a convulsive form, a hyperæsthetic form and a tetanic form. Owing to its insidious character and the variability of its symptoms the disease must be distinguished from gastro-enteritis, pneumonia, tetanus, tetany, acute encephalitis, the meningeal form of poliomyelitis, meningeal hæmorrhage and acute meningitis. Diagnosis is to be made by lumbar puncture. The prognosis is extremely grave. Treatment consists in an early and liberal use of serum. The thesis contains the histories of twenty-one cases, fifteen of which are original. J. D. Rolleston.

Parameningococcic meningitis in an infant (*'Bull. et mém. Soc. méd. Hôp. de Paris,'* 1912, xxxiii, *p.* 777).—**P. Menetrier** and **P. Brodin** record a fatal case in a female infant aged 6½ months. The symptoms were those of cerebro-spinal meningitis at that age, viz. insidious onset, late appearance of definitely meningeal signs and intensity of ocular manifestations. The cerebro-spinal fluid was clear at first and then slightly turbid. It showed a polynucleosis at the onset and finally lymphocytosis. The micro-organism found was present in much greater numbers than in cerebro-spinal meningitis due to the meningococcus, which it resembled in its morphological and cultural characters, but was distinguished from it by the agglutination and precipitation reactions. Anti-meningococcic serum was useless as in all recorded cases of parameningococcic meningitis, which hitherto has always been fatal. J. D. Rolleston.

Parameningococcic infections and anti-parameningococcic serum (*'Bull. et mém. Soc. méd. Hôp. de Paris,'* 1912, xxxiii, *p.* 828).—**Dopter** has collected twelve cases of parameningococcic meningitis. Clinically they resemble meningitis due to the meningococcus, but anti-meningococcic serum is of no avail, and hitherto all the cases have ended fatally. Dopter has recently prepared an anti-parameningococcic serum which has proved successful in the two cases in which it was tried. J. D. Rolleston.

Parameningococcus septicæmia treated by anti-parameningococcus serum (*'Bull. et mém. Soc. méd. Hôp. de Paris,'* 1912, xxxiii, *p.* 829).

—**Barrel, Coulomb** and **Couton**.—A boy, aged 9 years, presented symptoms of a general infection which at first resembled typhoid fever. On the twentieth day transitory meningeal symptoms developed. Slight improvement followed injection of antimeningococcic serum but the general condition remained grave and resembled septicæmia. A blood-culture showed the presence of the parameningococcus. Rapid improvement and complete recovery followed subcutaneous injection of an anti-parameningococcic serum prepared by Dopter. The true meningococcus was found in the rhinopharynx, which probably explains the improvement produced by the injection of meningococcic serum. J. D. Rolleston.

The ætiology of convulsions in early life (*'Arch. of Pediat.,'* 1912, xxix, *p.* 803).—**F. M. Crandall.**—(1) Predisposing causes: (*a*) Age. Infancy and early childhood predispose to the disease, convulsions being frequent during the first seven years and rare thereafter. (*b*) Heredity. (*c*) Rickets should be sought for in every case of convulsions. (2) Exciting causes: (*a*) Organic diseases, meningitis, hydrocephalus, hæmorrhages, etc. (*b*) Reflex. Dentition alone very rarely causes convulsions, and the same applies to phimosis. Irritating masses of food may induce convulsions reflexly, but more commonly they are a symptom of toxæmia. (*c*) Toxic, as uræmia and infectious diseases, and, as just stated, undigested food. This is the most frequent cause. F. R. B. Atkinson.

Epileptic convulsions and adenoids (*'Arch. de méd. des enf.,'* 1912, xv, *p.* 691).—**Pignero**, after quoting other observations of Thomson, Guesse, and Suarez de Mendoza, relates the case of a boy, aged 13 years, the child of arthritic parents, well-developed and healthy, who showed epileptic symptoms culminating in an epileptiform convulsion. Bromide treatment had a negative result. Adenoids were found and removed. No further attacks occurred, the case being reported four years later.

Macleod Yearsley.

A case of status epilepticus with an unusually large number of convulsions (*'Journ. Amer. Med. Assoc.,'* 1912, lviii, *p.* 857).—**S. A. Smith** describes a fatal case in a girl, aged 8½ years. The patient suffered from 1649 *grand mal* seizures in four and a half days, the largest number in any one twenty-four hours being 573 convulsions.

F. R. B. Atkinson.

Post-hemiplegic epilepsy (*'Presse méd.,'* 1912, xx, *p.* 442).—**d'Espine** showed two patients at the Medical Society of Geneva suffering from this condition. Case 1: At the age of two convulsions with hemiplegia occurred, and at the age of five epileptic crises. There was exaggeration of the reflexes of both upper and lower limbs. Case 2: Boy aged 6½ years; normal up to the age of four, when a fall on the occiput produced encephalopathy with meningeal symptoms and a left hemiplegia. The auditory nerve was paralysed, and he suffered from verbal amnesia. Jacksonian epilepsy developed on the left side and became generalised. F. R. B. Atkinson.

A case of trephining in epilepsy (*'Austral. Med. Gaz.,'* 1912, xxxii, *p.* 4).—**R. M. Curtis** narrates the case of a girl, aged 14 years, suffering from *status epilepticus*. Trephining was performed over the "neck" area of the right Rolandic convolution and the dura mater opened. Cure rapidly took place. F. R. B. Atkinson.

Otology, Rhinology, and Laryngology.

Diphtheria of middle ear (*'Wien. klin. Woch.,'* 1912, xxv, *p.* 1385).—**O. Bénesi** records a case of purulent non-membranous otitis media due to diphtheria bacilli in a girl, aged 19 years, who had had otorrhœa on and off since she was two months old. The diphtheria bacilli were probably a secondary infection, having gained entrance to the ear by the Eustachian tube. There was no evidence or history of faucial diphtheria. Recovery followed operation without antitoxin being used. J. D. Rolleston.

Meningococci in ear discharge (*'Münch. med. Woch.,'* 1912, lix, *p.* 1955).—**Doering** records two cases of girls aged 11 years and 9 months respectively, in whom at an operation for mastoid abscess meningococci were found in the pus in the antrum. There was no clinical evidence of meningitis. Both recovered. Whether the meningococci were the cause of the mastoid abscess or were a secondary infection is an open question. The cases illustrate the importance of making a bacteriological examination of every case of ear discharge. J. D. Rolleston.

The significance and management of chronic discharging ears (*'Med. Record,'* 1912, ii, *p.* 697).—**Braun** goes over the old ground, which cannot be enough reiterated. He notes the need of educating the general practitioner to rid him of the absurd superstitions still held about discharging ears and he enumerates the dangers of suppuration. In regard to management, he divides cases, after elimination of tonsils, adenoids, syphilis, tubercle and malnutrition, into two classes: those in which the disease is confined to the tympanic mucosa and those in which bone is involved. The pros and cons of the mastoid operation are discussed. He condemns the so-called " Heath " operation as based on bad surgical principle.

Macleod Yearsley.

A large abscess of the temporo-sphenoidal lobe, complicating a chronic purulent otitis media, without any symptoms except an occasional rise of temperature (*'Med. Record,'* 1912, ii, *p.* 935).—**R. Lewis** reports this case in a girl, aged 8 years. The original suppuration was due to scarlet fever and had lasted two years. Severe earache and general headache were present for a few days before admission to hospital. A radical mastoid operation was followed by rises of temperature to 104° F. or 105° F. No other symptoms until the twenty-fourth day, when she had slight headache. A second operation then revealed a temporo-sphenoidal abscess containing about three ounces of foul pus. The child made a rapid recovery. Macleod Yearsley.

A case of mastoiditis followed by general sepsis, with symptoms of tetanus (*'Arch. of Ped.,'* 1912, xxix, *p.* 585).—**M. Nicol, jun.,** and **F. S. Fielder.**—This case occurred in a girl, aged 4 years, who was reported as a case of tetanus probably due to vaccination two weeks previously, but tests of the vaccine used gave negative results. She was given 17,000 units of tetanus antitoxin intra-venously and 9000 units two days later. Left tympanic membrane was found to bulge and was incised; no pus found. She died eleven to twelve days after the onset of first symptoms. Post mortem there were found double middle-ear suppuration and mastoiditis, inflammatory œdema

of scalp, commencing hæmorrhagic lobular pneumonia, persistent thymus, acute parenchymatous hepatitis and nephritis; moderate pial œdema. The very great prominence of tetanic symptoms coming on early in the disease with a history of recent vaccination is given as an excuse for failing to arrive at the correct diagnosis. MACLEOD YEARSLEY.

The pro and con of maintenance of the retro-auricular opening after the radical mastoid operation (*'Med. Record,'* 1912, II, *p.* 975).—**S. Oppenheimer** thinks that, in the majority of cases, there is no question as to the closure of the retro-auricular incision. The development of methods of removal of disease and of plastic manipulations of the meatus has eliminated many cases in which maintenance of the retro-auricular fistula might have been expedient. The main disadvantages of such fistulæ are cosmetic in character. At present the main necessity for them is in extensive diffuse mastoid cholesteatoma. Maintenance of a fistula is of great importance when it is necessary to expose the sinus or the cranial dura or both. It may also be of temporary use when there are indications of the development of perichondritis of the cartilage of the external auditory canal. A permanent opening is "undoubtedly indicated with specific granulomata accompanied by more or less extensive destruction of both the soft and osseous tissues." MACLEOD YEARSLEY.

Myofibroma of the naso-pharynx (*'Medical Record,'* 1912, II, *p.* 451).—**J. H. Bryan** reports an instance of this tumour in a girl, aged 12 years. It was removed with the old wire snare under general anæsthesia and measured 3 in. It was probably attached just above the posterior end of the right middle turbinal. Such growths in the naso-pharynx in children are uncommon. MACLEOD YEARSLEY.

Adenoids in infants (*'Thèses de Lyon,'* 1910–11, *No.* 119).—**M. Durif** follows Marfan in regarding rickets and adenoids as closely associated, both being due to chronic intoxications in early life, inherited or acquired (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1907, IV, *p.* 504). After a description of the ordinary symptoms of adenoids, Durif discusses a latent form manifested only by reflex phenomena, such as spasm of the glottis, asthmatic attacks and nocturnal cough, which are due to irritation of the superior laryngeal or recurrent laryngeal nerves by the vegetations. Diagnosis is easy as a rule. Doubts as to the presence of a large thymus can be settled by X rays. The prognosis is grave chiefly on account of complications, especially otitis media. In mild and uncomplicated cases medical treatment is sufficient; in others removal in one or more sittings is indicated. The thesis contains the histories of thirty cases in infants aged from two months to two and a half years. J. D. ROLLESTON.

The "intoxication" factor in the genesis of adenoids (*'Rev. Hebd. de Laryng.,'* 1912, II, *p.* 1).—**Pistre** concludes that hyperplasia of the lymphoid tissue of the pharynx constitutes the visible proof of a defensive struggle of the infantile organism against a chronic intoxication, hereditary or acquired. It forms an integral part of a complex syndrome, often obscure —rickets—which first affects the bone-marrow, then almost immediately afterwards the lymphoid organs, and only very late the liver, the spleen and the other glands. In the case where the organism of the child is profoundly damaged, adenoidectomy gives only mediocre results from the point of view

of the ulterior somatic development. It must be completed, not only by appropriate respiratory exercises and a general hygienic and dietetic treatment, but by a true cure of polyglandular opotherapy according to the method of Dupuy. MACLEOD YEARSLEY.

Removal of adenoids as a preventive measure after exposure to measles (*'Med. Record,'* 1912, II, *p.* 388).—**J. B. Greene,** appreciating the great danger of a suppurating ear complicating measles in the presence of a large adenoid, believes that, in such adenoid cases, surgical intervention becomes conservative treatment after exposure to measles. He quotes a case in support of his contention, which is a very reasonable one.

MACLEOD YEARSLEY.

On retro-pharyngeal abscess during the first year of life (*'Arch. de méd. des enf.,'* 1912, XV, *p.* 916).—**J. Dandoy** alludes solely to suppurative retro-pharyngeal adenitis. The gland infection may be staphylococcic, or more often streptococcic, the organisms entering by an erosion of the mucous membrane. The abscess is not always recognised, and its termination is often fatal progressive asphyxia, general infection, pulmonary complications, or inanition. Fever is moderate, and examination of chest and abdomen yields negative results. The most constant sign of the abscess is the presence of mucosities in the throat which prevent a view of the deep part of the pharynx. In such cases palpation with the fingers should be practised. As regards treatment, evacuation alone gives any hope.

MACLEOD YEARSLEY.

Epidemic of sore throat with involvement of the cervical lymph-nodes (*'Amer. Journ. Dis. Child.,'* 1912, IV, *p.* 301).—**J. Ruhräh** describes this epidemic, the lessons to be learned from which are: (1) a streptococcus infection may be caused by infected milk, and this disease may be exceedingly severe and attended with numerous complications and fatalities. (2) Even in cold weather milk may be the source of the disease. (3) No matter how carefully raw milk is handled, it may at times be a source of danger. (4) The milk supplied to cities should be pasteurised, and where by accident the dairy company cannot so treat its milk, it should be compelled to notify its consumers, so that they can either pasteurise or boil the milk.

MACLEOD YEARSLEY.

Vincent's angina in children (*'Laryngoscope,'* 1912, XXII, *p.* 1356).—**J. A. Mulholland** reports on twenty-four cases which occurred in the course of eight months at the New York Foundling Hospital, where all the children are under five years of age. Practically all the cases came from the same nursery, but, as in the abstracter's cases (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1910, VII, *p.* 299), none of the nurses contracted the disease. All recovered except one—a child much weakened by severe measles—who developed noma. Mulholland thinks that Vincent's angina is fairly contagious and that institution life favours its spread.

J. D. ROLLESTON.

Gangrenous angina (*'The Antiseptic,'* 1912, IX, *p.* 533).—**J. D. Rolleston.**—This is a rare affection, the frequency of which was considerably over-estimated prior to the recognition of diphtheria as a specific disease. Many of the cases so described were really examples of malignant diphtheria

or of scarlet fever without a rash. Probably, however, some of the fatal cases of tonsillitis at the present day are really instances of gangrenous angina. Thus among 8444 cases admitted to the Metropolitan Asylums Board Hospitals from 1899–1910 certified as diphtheria, but diagnosed after admission as various forms of tonsillitis, there were 58 deaths. The primary form of gangrenous angina is commonest in adults, while the secondary form is most frequent in children between three and six years, especially as a complication of infectious diseases. The bacteriology is unsettled. The *Leptothrix buccalis* (Lastra) and Vincent's organisms (Buday and Vezprémi) have been especially incriminated. The disease lasts as a rule two to three weeks, but may extend over some months. The complications are phlebitis of the forearm, cerebral and pulmonary embolism, broncho-pneumonia, entero-colitis and œdema glottidis. The disease must be distinguished from diphtheria and Vincent's angina, to which latter, however, it is closely related. The prognosis is bad both in the primary and secondary forms. Death is due to toxæmia or to hæmorrhage from erosion of a large vessel. Local treatment is usually futile. The success of salvarsan in Vincent's angina suggests that this drug may be of service. J. D. Rolleston.

A completed treatment for tonsillitis (*'New York Med. Journ.,'* 1912, II, *p.* 480).—**F. Griffith** objects to the excision of all tonsils as he does to the "castration of convicts at the whim of a prison doctor." He commences treatment by giving calomel in $\frac{1}{8}$ or $\frac{1}{4}$ grain doses every thirty minutes until 2 gr. are taken or the bowels are well moved. When first seen a hot mustard foot-bath is given, the patient wrapped in a blanket and put to bed. Diet light and meat excluded. Treatment extends over one, two, or three days to suit requirements. Specific treatment consists of quinine bisulphate 2 gr. with Dover's powder 5 to 10 gr. at once, then night and morning through the course. Separate and distinct is the following treatment, regulated "according to the amount of purulent exudate dripping from the infected tonsils," which exudate, the author thinks, causes the "exacerbations of systemic reaction"; one or two drops of pure carbolic acid, stirred in a quarter of a glassful (size of glass not stated) of cold water two to eight times in twenty-four hours. Local throat cleansing by gargle or spray, sucking of ice, hot poultices to the neck, the use of guaiacum lozenges and incision of an obstructing tonsil are also recommended. Subsequent tonic treatment "if necessary." Macleod Yearsley.

Indications and contra-indications for tonsillectomy (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 1112).—**L. M. Hurd** thinks tonsillectomy to be the one operation whenever the tonsils are diseased enough to demand surgical interference, and so far as hæmorrhage is concerned it probably involves less risk than tonsillotomy. The contra-indications, beside those which belong to any other small major operation, are: temperature, *status lymphaticus* and hæmophilia. Hurd is of opinion that tonsillectomy ideally done should not injure the singing or speaking voice, though a singer may have to learn to use the muscles as they are readjusted. He described one case of death in a hæmophilic boy, aged 15 years.

Macleod Yearsley.

Indications for removal of the faucial tonsils (*'New York Med. Journ.,'* 1912, II, *p.* 55).—**Harold Hays** bases his conclusions upon some 300 cases. He thinks the tonsils have a definite function in early childhood, and

that they should not be removed unless there is some especial indication before four years of age. The small buried tonsils associated with enlarged cervical glands should always be completely removed unless some other definite cause is found for the condition. Tuberculosis he considers to be often of tonsillar origin. All tonsils, large or small, which seriously interfere with respiration, should be removed, and one of the most important points to be considered in judging whether a tonsil should be removed or not is its size in relation to the individual throat. He believes that many local pathological conditions are caused by diseased tonsils, that many cases of middle-ear catarrh can be prevented by removal of the tonsils, and that there is a distinct relationship between the tonsils and many general diseases. Finally, he holds that the promiscuous removal of the tonsils of children without the finding of some associated pathological condition is pernicious, and that all cases demanding operative interference should be carefully selected. MACLEOD YEARSLEY.

Infections following tonsillotomy, with a consideration of the forms of such infections (*'Amer. Journ. Med. Sci.,'* 1912, CXLIV, *p.* 30).—**H. Koplik** calls attention to three distinct forms of sepsis following tonsillotomy. The first form runs an obscure fever for a week or more without causing any endocarditic or other lesions; in the second form, besides the raised temperature, there are manifestations of a mild infectious endocarditis, or, as in chorea, the endocarditis takes on a severe infectious or "malignant" type, with subsequent fatal issue. The third form of sepsis is that in which the infection is evidently severely hæmatogenous and causes destructive blood changes, with signs of sepsis such as profuse hæmorrhagic ecchymotic areas on the surface of the skin, petechiæ, severe hæmorrhages from the bowel, and areas of broncho-pneumonia. MACLEOD YEARSLEY.

Subacute broncho-pneumonia consecutive to tonsillectomy (*'Arch. gén. de Méd.,'* 1912, XCI, *p.* 1079).—**R. Labbé** describes a case in which subacute broncho-pneumonia was observed in a boy, aged 7 years, three days after tonsillectomy by *morcellement*. An abscess in the buttock occurred twenty-four days after the operation, the pus containing pneumococci only. The child recovered. The case is one of great interest, and its value is enhanced by the very full account which the author gives of the literature, including a case published by the reviewer, in which a boy died of pure pneumococcic septicæmia four days after removal of adenoids. MACLEOD YEARSLEY.

Subcutaneous section of the cricoid for laryngeal stenosis following intubation (*'Austr. Med. Gaz.,'* 1912, XXXII, *p.* 82).—**G. Croll** and **A. J. Turner**.—A child, aged 6 years, was admitted to hospital suffering from marked diphtheria, treated with anti-diphtheritic serum and intubation which resulted in cure. Ten days afterwards the breathing again became difficult from stenosis of the larynx, and as intubation gave no relief subcutaneous section of the cricoid was performed and intubation carried out. Recovery followed. F. R. B. ATKINSON.

Chronic laryngeal stenosis; treatment by prolonged intubation (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 1120).—**H. Dupuy** records 4 cases in children aged from one to three years. One was due to diphtheria; the others were examples of chronic hypertrophic laryngitis. One died from an

avoidable accident, and another from intercurrent broncho-pneumonia. The other two recovered. The periods of intubation varied from one month to one year. A special intubation tube was used, swollen at its lower end so as to impinge upon that portion of the subglottic and tracheal areas which is the usual site of the constriction associated with hypertrophic laryngitis. When this failed, an intubation tube was permanently fixed in the larynx by a silver pin introduced through a tracheal incision which was closed above and below the pin. J. D. Rolleston.

Tuberculosis of the larynx in children (*'Thèses de Lyon,'* 1911–12, *No.* 91).—**M. Edouard.**—Laryngeal tuberculosis is relatively rare in children. Its frequency in tuberculous children ranges from 2 or 4 per cent. according to the clinical symptoms only to 13 per cent. as ascertained by post-mortem examination. A primary form is most exceptional. The condition is chiefly found in miliary tuberculosis and in advanced pulmonary and generalised tuberculosis. Its pathogeny varies. In miliary tuberculosis infection occurs by the blood-stream, while in some of the cases where the pharynx is simultaneously involved the lymphatics convey the infection. Inoculation by the sputum may take place in children as in adults. The earliest symptom is usually dysphonia, and is followed by laryngeal pain, dysphagia, and an intermittent, dry, hoarse cough. Dyspnœa, however, which may be of sudden onset, is the predominant symptom, and is more marked than in the adult, partly from the narrowness of the larynx and partly from the frequency of spasmodic phenomena in children. The clinical forms are the granular (the most frequent), the infiltrating and ulcerative, the ulcero-œdematous, the pharyngo-laryngeal, the vegetative, tuberculous tumour of the larynx, the subglottic and the perichondritic. Diagnosis must be made in a few rare cases of sudden onset from diphtheria and suffocative laryngitis, in the vegetative forms from papilloma, and in other cases from congenital syphilis of the larynx and compression by lymphatic glands. The prognosis is very grave. The course is always rapid and rarely exceeds eighteen months. Death frequently occurs in a few months or even weeks. In Nobécourt and Tixier's case (*vide* British Journal of Children's Diseases, 1910, vii, *p.* 27) the duration was only four days. The treatment is that of pulmonary tuberculosis. Owing to the difficulty of local applications and the frequency of asphyxial attacks tracheotomy is often indicated. The thesis contains the histories of eleven cases, four of which are original, in children, five males, six females, aged from 1½ months to 14 years. J. D. Rolleston.

Direct laryngoscopy and tracheo-bronchoscopy in children (*'Jahrb. f. Kinderheilk.,'* 1912, lxxvi, *Erg.-Heft, p.* 131).—**M. Paunz** records 50 cases in children aged from 3 months to 10 years in which these methods were used for laryngeal syphilis, papillomata of the larynx, congenital laryngeal stridor, laryngeal and bronchial foreign bodies, descending tracheal diphtheria, tuberculosis of the tracheo-bronchial glands and peritracheal and peribronchial abscesses. Brünings' electroscope and tubes were used, and the examination was always carried out under deep chloroform narcosis, followed by application of 5–10 per cent. solution of cocaine and a few drops of suprarenal extract to the pharynx and larynx. The direct method was found to be of great value, the best results being obtained in the cases of foreign bodies. J. D. Rolleston.

Two cases of foreign bodies removed from the bronchi (*'Siglo med.,'* 1912, lix, p. 548).—**Tapia** removed by superior bronchoscopy a foreign body

from the right bronchus of a child, aged 5 years, who had inhaled it a year previously. The clinical diagnosis had been confirmed by radioscopy. The child was put in Mickulicz's position, and Killian's tubes (7 mm. by 25 cm.) were used. In the second case a foreign body was removed from a child, aged 8 years, by peroral bronchoscopy from the right bronchus. A fenestrated forceps was used with one blade fixed and the other movable. The steps of the two operations are fully described. Perfect and rapid recovery took place in both cases. M. D. Eder.

Report of a case of bronchoscopy for multiple foreign bodies (almond shell and pulp) in a child two years of age (*'Med. Record.,'* 1912, II, *p.* 453).—**J. R. Winslow.**—The girl cried and her mother noted her cyanosis and embarrassed respiration. She cleared the throat of almond shell and pulp with her finger and relieved her, but the embarrassment returned. On examination under cocaine, the smallest bronchoscope available would not pass, and tracheotomy with lower bronchoscopy was done next day. Much milky pulp was removed from the left lower lobe bronchus; the upper lobe bronchus could not be entered. Broncho-pneumonia, lasting eight days, followed. Discharged from hospital on the thirteenth day, she developed influenzal pneumonia a month later, following which the wound opened spontaneously and she coughed up an oval piece of almond kernel 6 by 3 mm. She then slowly and fully recovered.

Macleod Yearsley.

Stricture of œsophagus (*'Berl. klin. Woch.,'* 1912, XLIX, *p.* 2405).—**A. Réthi.**—A girl, aged 15 years, had had difficulty in swallowing since an attack of diphtheria at the age of three years, complicated by a peri-œsophageal abscess which had broken externally. A large transverse scar in the neck was still present. On passing an œsophageal sound, obstruction was met with at the depth of 18 cm. The stricture was gradually dilated by a Brünings' œsophagoscope, and in three weeks the sound could be passed through it without the œsophagoscope. Complete recovery took place in one and a half months. Réthi alludes to the rarity of œsophageal diphtheria, and quotes the case reported by the abstracter (*vide* British Journal of Children's Diseases, 1912, IX, *p.* 12). J. D. Rolleston.

Œsophageal atresia and communication between stomach and trachea (*'Jahrb. f. Kinderheilk.,'* 1913, LXXVII, *p.* 93).—**Pollak** showed this specimen from a child, aged 7 days, at the Vienna Gesellschaft f. inn. Med. und Kinderheilk. The child vomited after every feed and never had any milk stools. A sound revealed occlusion of the œsophagus. Gastrotomy was performed, and after introduction of food into the stomach part was returned by the mouth. As the œsophagus was closed, the food must have reached the mouth by a communication between the stomach and trachea.

J. D. Rolleston.

Reviews.

HANDBUCH DER NERVENKRANKHEITEN IM KINDESALTER. (HANDBOOK OF THE NERVOUS DISEASES IN CHILDHOOD.) By Profs. L. BRUNS, A. CRAMER, T. ZIEHEN. Berlin: S. Karger, 1912. Price M. 30; bound, M. 32·50.

This work is divided into three parts:

(1) By Cramer, dealing with mental defect and the functional diseases of the nervous system.

(2) By Bruns, dealing with diseases of the spinal cord, peripheral nerves and muscles.

(3) By Ziehen, dealing with diseases of the brain and membranes.

The introduction states that there are two methods of considering the subject matter in hand—either by limiting the scope of the work to those diseases which may be said to be specific to children, such as spinal caries, diplegia, birth injury, etc., or while including these by dealing also with some diseases which occur but rarely during childhood, viz. tumour of the spinal cord and myelitis.

The title of the book is *not* the nervous diseases *of* childhood, but nervous diseases *in* childhood, and such a work will, it is thought, be more generally useful than a work limited to the nervous diseases of childhood.

The first section of the work deals with the mental defects and what are commonly called the functional affections of the nervous system of children. The "nervous" and the "psychopathic" child is considered, together with hysteria, epilepsy, chorea, stuttering and the tics. Each of these subjects is exhaustively dealt with, and the only criticism that could be advanced is that many of the conditions described are rarely, and in some cases one might say never, seen among English children.

The second part of the work by Bruns deals with the diseases of the spinal cord and peripheral nerves and also with such diseases of muscles as polymyositis, myositis ossificans and ischæmic paralysis. The first pages are devoted to the consideration of the symptoms and to the segmental localisation of diseases in the spinal cord. The section then deals with spinal caries, spinal injury, spinal syphilis and the treatment of these conditions.

The important disease acute anterior poliomyelitis is considered. A full account of the history of this disease is given from its earliest recognition, the early bacteriological work, and the recent experimental work. The author sums up as follows: "Acute poliomyelitis is an acute infective disease which is produced by a specific cause whose nature at present we do not know"; but he adds that "it is possible, and from analogy with other post-infectious nervous diseases likely, that the condition of infantile paralysis may also be produced by other bacteria and their products."

An interesting account of the rare condition juvenile tabes is given, in which Bruns points out the rarity of this affection. He had seen only two instances in 15,000 cases of nervous diseases which have been under his observation. Marburg states that it is relatively more common in girls than in boys.

Under the heading "Endogenous Diseases of the Spinal Cord" two groups of cases are discussed, "hereditary ataxia" and "hereditary family spastic paraplegia." This method of grouping these cases under one heading is excellent. It is a subject with which it is most difficult to deal, because of

the variations of the symptoms in cases which obviously have a close relationship, and the author with his wide experience has dealt with them in an admirable manner.

The next section deals with the various forms of progressive muscular atrophy of children dependent on a spinal lesion—of which the most important group is the type described by Werdnig and Hoffmann. Prof. Bruns' original observations on the subject are well known and the section is illustrated by cases which have been under his own observation. The primary myopathies are next dealt with, and the author describes the various features, dealing with them as a whole, and not dividing them into classical types. The disease described by Oppenheim under the title "Myatonia congenita" is mentioned in relation to the diagnosis of nervous diseases generally, and also in the diagnosis of progressive spinal muscular atrophy of infants; but a full description of this condition as such is not to be found. The paralytic conditions associated with spina bifida and other defects of the vertebræ and spinal cord are dealt with. The various birth palsies, ischæmic paralysis and neuro-fibromatosis (von Recklinghausen's disease), of which an excellent illustration is given, conclude this section.

The final section on diseases of the brain and membrane in childhood is written by Ziehen. The most important chapters of this section are those dealing with the cerebral palsies of children, brain tumours and meningitis.

Nearly thirty pages are devoted to the consideration of multiple sclerosis, a disease which, if it ever occurs in children, is of the greatest rarity. The chapter on brain tumours also is evidently written from the standpoint of the condition in the adult, and not that of a child. Several pages are devoted to the consideration of tumours of the cerebral hemisphere, whereas it is generally recognised that tumours of the hemisphere are exceedingly rare in childhood, whereas the lesions of the basal ganglia brain stem and cerebellum are common.

The treatise, so far as the diagnosis of cerebral tumour is concerned, is excellent, but it does not give the reader a picture of the disease as it occurs in childhood, which we take to be the object of this work.

Again, in dealing with the various forms of meningitis, it is most difficult to obtain a knowledge of how the disease is likely to occur in childhood, and to what causes they may be due. All the facts are mentioned, but it requires some search not only in the index, but also in the text, to find the points on which instruction is desired.

The work is most comprehensive and complete, but regarded from the point of view of a practitioner who desires to acquire some knowledge, either general or on a difficult point, with regard to some nervous ailment in childhood, it is disappointing. To the physician who has already considerable knowledge of the nervous ailments of children the work is of great value, for it furnishes him with a record of the rare diseases of infancy and childhood and an excellent bibliography on the various subjects from which he can, if he desires, obtain further information.

That which is written in the preface may be considered to disarm the above criticism, but a book on nervous diseases in childhood should furnish a record of the disease as it manifests itself during the earlier years of life. One's feeling is that this is scarcely a "handbook" on the nervous diseases of children, but a complete treatise on the subject, and as such is rather a book of reference than one for general reading.

Frederick E. Batten.

Diseases of the Nervous System. By Judson Bury, M.D., F.R.C.P., B.Sc. Manchester University Press: Sherratt & Hughes, 1912. Price 15s. net.

This work, which is dedicated to the past and present students of the Manchester Medical School, is an excellent introduction to the study of the diseases of the nervous system, and is the outcome of twenty years' experience in neurological instruction at the Manchester Royal Infirmary. The descriptions are both terse and lucid, and are well suited for the class of readers for whom the work was intended. The student, however, might well have been spared the account of the four stages of hysteria major, for the disease as Charcot described it is now practically extinct.

Of special interest to those concerned with the study of children's diseases are the pages dealing with infantile hemiplegia, acute poliomyelitis, the muscular dystrophies, chorea, cerebral meningitis, and the effect of hereditary syphilis on the brain and cord.

Two statements call for criticism. The first of these is in the article dealing with diphtheritic neuritis, in which the author states that no definite relation can be traced between the severity of the throat affection and the degree and extent of the paralysis. This view is too often held by neurologists, whose knowledge of the character of the acute attack is most likely to have been second-hand. Those who, like the reviewer, have kept under observation some thousands of diphtheria cases throughout their illness, are unanimous in declaring that there is a very direct relation between the initial angina and the frequency and severity of the subsequent paralysis. The other questionable statement occurs on p. 598, where we read that no good results have yet been recorded from the serum treatment in posterior basic meningitis. Reference, however, to the statistics collected by Flexner in America, and by Dopter in France, of cases treated by their serums, shows that the mortality in infants from cerebro-spinal meningitis, in which the posterior basic variety is included, has been reduced from 90 to 42, or even 33 per cent. (*v.* British Journal of Children's Diseases, 1909, vi, *p.* 462, and 1910, vii, *p.* 42).

The printing and get-up of the book are excellent.

Among the numerous illustrations accompanying the text, attention should be drawn to those of amyotonia congenita, enlargement of the masseters in pseudo-hypertrophic paralysis, and other figures of muscular dystrophy, bilateral facial atrophy and hysteroid convulsions in a boy of twelve.

There are a few misprints, among which "bacillus influenza" and the frequently recurring "tendo Achilles" will jar on the student fresh from his classical studies. J. D. R.

The Diseases of Children. Edited by Dr. M. Pfaundler and Dr. A. Schlossmann. English Translation edited by Henry L. K. Shaw and Linnæus La Fetra. Vol. V: Congenital Diseases, Surgery, Orthopædics. Philadelphia and London: J. P. Lippincott Co. Price 21s. net.

This volume will be welcomed with pleasure, both in this country and in America. It is one of the few surgical books on children which attempt to recognise that children are not miniature adults, although in some cases even here treatment suitable only for adults has been included. The reader

will therefore find comparatively little space is taken up with crowding in conditions which are not essentially those of childhood.

The arrangement is excellent and deserves the highest praise. The type is large and clear, but the repetition of strange names in brackets after every definite statement of well-recognised fact or fanciful idea makes reading more wearisome than it need be. Illustrations are plentiful and well chosen; many of them are coloured. After reading carefully through the book, one is struck by several things which seem strange to us in this country. The first is the large number of umbilical hernias which continental surgeons find require operation. Another is the recommendation of Kocher's operation for the radical cure of inguinal hernia in young children in place of a simpler method. The discussion on whether to operate at all in case of appendicitis, and if so, when, is apologised for by the American translators, and might well have been omitted almost entirely; we are quite of their mind that operation should follow as soon as the diagnosis is made. The old idea of intra-uterine amputations being neatly and successfully performed by amniotic bands together with the subsequent disposal of the amputated member is still, we see, accepted in the text, although it is noted that the same developmental error may affect several members of one family. Presumably in such cases the amniotic band is so skilled that it can make quite sure of snaring the same limb in the same way each time. The objection may be personal, but the terms of pronation and supination as applied to the movements of the feet seem strange to us.

In the cure of prolapse of the rectum in some children the first operative measure recommended is to "replace the prolapse and then carry a silver wire subcutaneously around the anus, and then twist the two ends together until the anal opening is of normal size." After paying a tribute to the excellent results by this and other methods, the authors state they have adopted a simpler one, "namely, a longitudinal stiffening of the rectum with bars of paraffin. This method may easily be endured by the weakest child." As in the case of umbilical hernia, we, in this country, even with the help of some enthusiasts, do not seem able to produce one twentieth the number of these cases in which we think an operation is needed or justified.

The chapter on injuries is excellent, and is the part of the book which most appeals to us, but we should be more pleased if the fractures in the region of the elbow-joint had been put up in acute flexion instead of at a right angle.

These criticisms, however, have more to do with the original authors than with the translators, who are in honour bound to give a true account of the ideas of the author, however far these may happen to be from their own convictions or experience. We therefore present our thanks to them for the production of a very readable book.

DUNCAN C. L. FITZWILLIAMS.

MENTAL DEFICIENCY. London: Adlard & Son, 1912. Price 1s. net.

THIS pamphlet of 93 pages is reprinted from the 'Journal of Mental Science,' and is a convenient compilation of various communications, reports and discussions concerning the Mental Deficiency Bill which was introduced by the Home Secretary this Session. The greater part of it consists of the very able and lucid exposition of the Bill which was given by Dr. Hyslop before the Medico-Psychological Association, together with the discussion which took place thereon. Dr. Hyslop deals with the subject under five

headings, viz.: (1) The need for legislation as evidenced by the Report of the Royal Commission. (2) Do the legislative proposals contained in the Bill ensure adequate provision for the most needful cases? (3) Is sufficient protection ensured for existing institutions for idiots and imbeciles? (4) Is the liberty of the subject adequately guarded? (5) Are the objects of the Bill reasonably attainable from the points of view of administration and economy? The discussion which followed plainly showed that although certain clauses of the Bill were in need of modification, yet expert opinion regarded it as being, on the whole, a decidedly useful measure, and one which would do not a little to protect society from the mentally deficient, as well as safeguard the interests of the mentally defectives themselves.

It is a matter for great regret that the Government have not proceeded with the measure this Session.

The other portions of the pamphlet deal with medical inspection of school-children; voluntary institutions for idiots, imbeciles, and the feeble-minded, etc., and the whole forms a useful summary of professional opinion which should certainly be read by all who are interested in this subject.

A. F. Tredgold.

Diseases of the Throat, Nose, and Ear. By W. G. Porter, M.B., B.Sc., F.R.C.S.Ed., Surgeon to the Eye, Ear, and Throat Infirmary, Edinburgh; Surgeon, Ear and Throat Department, Royal Hospital for Sick Children, Edinburgh; Aurist to the Edinburgh Royal Institute for the Education of the Deaf and Dumb. Bristol: John Wright & Sons, Ltd., 1912. With 77 illustrations, 44 of which are in colours. Price 7s. 6d. net.

This volume, which is intended for the non-specialist practitioner and senior student, contains within moderate compass an admirably clear and pleasantly written account of the diseases of the throat, nose and ear. The writer's experience among children should recommend the book to the pædiatrist, especially the pages dealing with congenital laryngeal stridor, enlarged tonsils and adenoids, and the diagnosis and treatment of otitis media. A useful appendix is given of formulæ commonly used in the specialty. The work will prove a valuable help to those seeking an introduction to oto-rhino-laryngology.

J. D. R.

Before the Doctor Comes. By Andrew Wilson, Ph.D., M.B., F.R.S.E. London: Eveleigh Nash, 1912. Pp. 278. Price 2s. 6d. net.

This is a well and simply written book, the title of which explains its scope. It deals with the subject both from a surgical and medical standpoint and gives valuable suggestions in first aid in disease and accidents. We think, however, that a good deal of the fifth chapter dealing with first aid in disease might have been omitted, as subjects such as dropsy, diabetes, cancer, tumours, pernicious anæmia, obesity, etc., can hardly be said to be considered as emergencies.

F. R. B. A.

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Original Articles.

SOME CASES OF JAUNDICE IN CHILDHOOD.*

By F. J. POYNTON, M.D., F.R.C.P.Lond.,

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IT is interesting to notice, in the history of medicine, how a subject may appear to remain quiescent for a while, and then, almost suddenly, come to the fore and disclose the steady progress that all the time has in reality been taking place. We find, too, not infrequently that these advances do not occur by a direct route, but rather by a series of side tracks which gradually converge to the main road. In various countries, and in France particularly, a great deal of attention has been paid in recent years to the condition of the blood in jaundice, and to the interactions of the liver, spleen, kidneys, and even bone-marrow. Many new thoughts and suggestions have arisen, and the whole subject of jaundice is now in a condition of evolution. Some years ago I touched upon this point in a lecture given at Great Ormond Street on "Family Periodic, or Acholuric Jaundice," and from time to time I have recorded interesting cases of jaundice in childhood, to some of which I again refer here. The numerous researches that have been made upon

* A lecture delivered at Great Ormond Street, November, 1912.

acholuric jaundice have led us among such interesting conditions as icterus neonatorum, Banti's disease, pernicious anæmia and splenic anæmia infantum, and here we find ourselves in great danger of getting lost in confusion. We realise, too, that we have to consider very carefully whether our clinical types represent special diseases or possibly only special phases of disease.

Leuret's interesting paper upon icterus neonatorum ('Archives des Maladies du Cœur,' 1910, iii, p. 236) gives some important details about icterus neonatorum which may well introduce the main facts of this lecture. Not only does Leuret, who looks upon this icterus as the type of an acholuric jaundice, describe some histological investigations, but he compares these results with experimental investigations upon rabbits by ligature of the common bile-duct, injection with toluyl-diamine, and intoxication with chloroform. In icterus neonatorum, should death occur in the early or red stage of the affection, the liver is found gorged with blood, the biliary channels are full of bile, and the liver-cells of a normal colour. On the other hand, in the late or yellow stage, the liver-cells are impregnated with a great abundance of an ochre-yellow pigment, which by suitable staining gives the reaction of free iron. Masses of the same pigment are found in the blood-vessels, and macrophage leucocytes are also to be seen loaded with the same.

The spleen in the red stage is greatly congested and filled with blood-pigment, and the splenic pulp is dull brown in colour, and numerous macrophages are here crammed with the ochre-coloured pigment.

In the kidneys there are also found in the bases of the convoluted tubules some ochre-coloured granules containing iron, and in the Malphigian bodies and lumens of the urinary tubules much yellow pigment not containing iron.

In the condition of icterus neonatorum with its active hæmolysis, it is apparent that the iron is retained in the liver, spleen and kidneys, while the liver and kidneys excrete bilirubin and the urinary pigments which do not contain iron. There would appear to be an intense reaction in the spleen, with great activity of the macrophage leucocytes, resulting in the disintegration of the red cells with retention of their iron, and liberation of blood-pigments free from iron. These latter pass by the splenic vein to the liver, and, should any red cells containing iron also escape to the liver, these are taken up by the cells of Küpfer. The rapid flow of blood-pigment to the liver will stimulate the liver-cells to much activity, and thus excess of bilirubin escapes into the general circulation.

When the common bile-duct was occluded by a ligature Leuret found in the rabbit masses of yellow pigment which did not give the iron reactions in the liver, spleen and kidney. Where toluyl-diamine was injected subcutaneously he found, on the other hand, a condition resembling that already described as occurring in icterus neonatorum. In these experiments he studied also the bone-marrow, and concluded that it assisted the action of the spleen by means of its macrophage cells. Leuret, it is clear, attached great importance to the spleen in the history of acholuric jaundice, and he suggested that it is possible that the pigments liberated by this organ from the disintegrating blood-cells may cause some slight jaundice without the liver being necessarily implicated in the formation of bilirubin, and further that urobilin may be in part of splenic origin.

With these introductory remarks I pass to my first group of cases, which are examples of a prolonged jaundice dating from birth and in nature apparently obstructive. My facts are only imperfect for they have all been private cases, but they are, I think, deserving of some attention. This group contains three infants and one adult.

The first case was a female, aged 3 months, who had been jaundiced from birth. The conjunctival mucous membrane and skin were yellow, the motions white and undigested, the urine very dark, the liver was large but not hard, the spleen was not felt, the umbilicus was healthy, the temperature generally subnormal. There was no evidence of congenital syphilis and the one other child was very healthy. From time to time a little bile appeared in the motions and at these times the skin became less yellow. The child had not been breast fed. Gradually, by about the twelfth month, the jaundice disappeared and complete recovery followed.

The second case was a male, aged 4 weeks, and a first child of healthy parents. No cause was apparent for the jaundice, which appeared upon the third day and had persisted. This child was definitely jaundiced, the stools were large, white and undigested, the urine contained bile-salts, the liver was large but not tender or hard. Here again it had been noticed that some bile appeared in the motions occasionally and that then the colour improved. Two months later the motions were mustard-coloured and the liver distinctly smaller. At about the seventh month the jaundice had disappeared and the liver had still further diminished. This child was circumcised later, and died, I was informed, of spreading gangrene. He was never breast-fed, but given cow's milk.

My third case was a male infant, aged 4 weeks, who showed jaundice in the first week. Here, again, the jaundice was persistent,

the liver was enlarged but the spleen was not felt, the motions were white and undigested. Again, also, some bile was occasionally seen in the stools. Slowly, after many weeks, the jaundice disappeared, the liver became smaller, and in this case complete recovery resulted. The child was never breast-fed, but given at first cow's milk.

The fourth case I only saw as an adult of some 30 years. She had been born with jaundice, and from early days an enlarged spleen was noticed. In addition to this there was congenital morbus cordis of slight degree and congenital absence of the left upper extremity below the middle of the arm. This patient was always a yellowish colour, and had from time to time severe attacks of intense jaundice with dead-white stools and an urine almost black with bile-pigment. These attacks lasted about ten to fourteen days. Curiously obstinate ulcers of considerable size broke out from time to time upon the legs above the ankles and required much care in their treatment. In this case the spleen was greatly enlarged, and during the attacks of acute jaundice the liver also enlarged very considerably.

This patient had passed through about fifty acute attacks of obstructive jaundice.

I mention this case because it would seem probable that we had here, in view of the other congenital defects, a possible congenital maldevelopment or hypoplasia of the common bile-duct.

The other three cases are worthy of attention on account of the difficulty in the diagnosis and the great care required in the diet. For my own part it seems to me a very difficult matter to distinguish them from the cases of atresia of the biliary passages which usually terminate fatally in the first year. I would emphasise these points: First, the absence of splenic enlargement; secondly, the comparatively slight degree of the jaundice; and thirdly, the natural consistence of the enlarged liver. My colleague, Dr. Still, has commented upon similar cases in his monograph upon 'Common Diseases in Childhood.' It seems clear that they are obstructive, and if we follow Leuret closely they are apparently not of the same nature as the icterus neonatorum which is the type of an acholuric jaundice. This point, however, doubtless needs more investigation. I have suggested an unusually viscid bile as a possible cause of the condition based upon an autopsy in which such a viscid fluid was found. One wonders whether in the future such cases as these may not throw light upon Gee's cœliac disease, Cheadle's acholia, or the American Herter's affection.

The treatment is not easy and requires both patience and care in

the feeding. Fats are not tolerated and the nutrition flags. Among the foods with which I have succeeded have been asses' milk, Benger's food, Horlick's malted milk, the Walker Gordon modified milk with the fats much limited, raw meat-juice and brandy. Among drugs, small doses of grey powder and bicarbonate and salicylate of soda have seemed to me the most serviceable. These children gain weight very slowly and with much difficulty, and are always anxious cases in the early months.

We have in the preceding group distinct evidence of some biliary obstruction more or less complete, but the next group is of the acholuric type and bears several names, such as "family acholuric jaundice," "congenital family periodic jaundice." No disease of this kind has perhaps attracted more attraction of late years, for though it is rare, it is so instructive as to stimulate research in all directions. Some years ago I gave my experience of these cases, and since then I have had four families under my observation, and am the more impressed with their scientific importance. It has been my experience to find that the parents have said in most of these cases that the jaundice has been first noticed about a fortnight after birth, but I have also had this evidence of late in one of my families that a child was born deeply jaundiced and died in a few days. Whether or not this was a case of the same nature as the others in the family I cannot say. The disease runs in families and has these cardinal features: there is an acholuric jaundice with enlargement of the liver and spleen and anæmia of varying degree. There are apparently two chief types: one in which there is a persistent yellow colour of mild degree, but varying in depth from time to time; the other in which anæmia is prominent and there are outbursts of very definite and sometimes extreme jaundice.

The red blood-corpuscles tested *in vitro* in normal saline solution of varying strength often show a remarkable fragility. I am not quite sure this is constant, but it is certainly a very frequent event. The red blood-cells also show a number of reticulated red corpuscles, such as are also found in icterus neonatorum. These have been much studied on the continent since Pappenheim's work on the subject, but I believe Dr. Lukis, a house-physician to the Hospital for Sick Children, Great Ormond Street, is the first in this country to investigate them in three of my cases. The method of staining, the so-called "vital staining" of Pappenheim, necessitates special methods, and the blood must not be fixed. These cells with the curious reticulated protoplasm are probably of an embryonic nature and point to activity in the formation of the red cells, which are

possibly needed to replace the fragile cells which are being continuously destroyed. They occur in normal blood in about 1 per cent. to 2 per cent., but are numerous in the fœtal blood. In many forms of severe anæmia they are increased and are a very usual feature in acholuric family jaundice. Dr. Lukis examined four cases in one family. The father, who was a classical example, showed 6 per cent.; a daughter closely alike to him in every respect, aged 8½ years, 8 per cent.; a sister definitely but less affected, 5 per cent.; another sister, free from jaundice, 0·2 per cent.

These children are not robust, although when they grow up they manage to work at some employment. Two of the fathers who are affected are in steady employment and one of the daughters. With a solitary exception all of them seem to suffer in the cold weather. The exception was always in worse health in the heat.

These cases sometimes develop a rapid anæmia, which was preceded in two of my own by considerable pyrexia. I found, too, that I had been treating one of my cases for anæmia a year before I made the diagnosis which followed the examination of another child of the same family. In one girl there was a dusky pigmentation with debility and fainting attacks, and when I showed this case at the clinical meeting of the Association of Physicians, several distinguished clinicians were convinced that this was a case of Addison's disease. Personally I doubted this, for I had had the advantage of seeing this same child in an attack of acholuric jaundice followed by anæmia, and had noticed the enlargement of the liver and spleen. Fragility of the blood-corpuscles was also demonstrated by Dr. Embleton. Since the suggestion of Addison's disease I have again got in touch with this case, which was one of a family, and when I last saw her in September she was much better, the pigmentation less, and the resemblance, so striking before to Addison's disease, is now far less obvious. The red cells in one of my cases sank to 1,860,000 per c.mm. The colour index is usually high (about 1), and the red cells show anisocytosis and poikilocytosis.

There is no doubt, I think—and Dr. Parkes Weber agrees—that the condition may appear as one of anæmia with slight enlargement of the spleen, the jaundice passing into abeyance, and then unless one should happen to know the history it cannot be expected that at first a diagnosis would be made. One of my cases was admitted as an intussusception. We might well wonder at first sight how this could happen, and it is the more interesting when I add that I had unwittingly been treating the boy's aunt for suspected gall-stones.

These facts lead me to emphasise the attacks of acute abdominal pain that are not infrequent in such cases, and which were the explanation of these two diagnoses. Some of these patients have indeed had gall-stones; others have had severe and recurrent attacks of pain over the spleen; others, again, pain suggestive of gastric ulcer. They are symptoms of great importance, because they are the ones that make us consider whether any radical steps should be taken to prevent them. Excision of the spleen has been apparently successful in two Australian cases, and recently Dr. Box has recorded one which, however, proved fatal, though at a time when there was every reason to expect success. My colleague, Dr. Thursfield, has also had a remarkable success. It is clear that such treatment is only indicated when there are urgent symptoms—at least this is correct I think in the present state of our knowledge—and whether it is a sound procedure will need more experience. I am convinced that some of the cases of slight severity gradually get well as they grow older, the jaundice gets less, the general health better, the pains fewer, the spleen gets smaller, and the liver, which is never large except in a severe attack of jaundice, may not be felt below the costal margin. At present I have no observation upon the fragility of the red cells in this condition of recovery, but shall hope to obtain a record when I can trace one of these children who has, in my opinion, overcome the disease.

The spleen in the older patients may reach a large size and become unusually hard, and such cases, I think, usually show considerable anæmia. I think arsenic is of service for the anæmia; rest, warmth, opiates and hot applications are indicated for the pain and jaundice.

My last group is of a different nature and syphilitic in origin.

A boy, aged 9 years, came to hospital very ill with intense jaundice, a much enlarged liver and ascites. The jaundice was obstructive in type. The illness had commenced four days before with abdominal pains and vomiting. In hospital, vomiting, fever and delirium developed, and later nystagmus, squinting and diplopia. Paracentesis of the abdomen was necessitated, soon after which he became comatose and died. The great interest of the case lay in the fact that he had been under my care two years before for *epileptic fits*, which had commenced when he was seven and which were both major and minor attacks. The major attacks disappeared when he was having a course of bromide of potassium, and the minor attacks much diminished while taking urethane. His parents had, in fact, considered him cured, and had not brought him up for sixteen months

prior to his fatal illness. It was not until this second occasion that I had realised the meaning of some scars at the angles of his mouth and pegged teeth.

The post-mortem examination showed a greatly enlarged smooth liver, with a thickened capsule, which on section showed mottled red and yellow areas. The spleen was enlarged and firm, scarred on its surface and surrounded by adhesions. The kidneys were firm. The brain showed chronic meningitis. Microscopical examination of the liver showed destructive and atrophic changes in the cells, but no *fibrosis*. The condition was one of acute parenchymatous disease of the liver. The kidneys showed an early interstitial nephritis, and the radial, renal and coronary arteries endarteritis obliterans. There was some optic atrophy.

The sequence of events in this case was, first an eclampsia, indistinguishable in character from idiopathic epilepsy, then improvement, and lastly, about two years from the time of his first visit, an acute hepatic illness with meningeal symptoms. The post-mortem lesions were those associated with syphilis.

The next case, a boy, aged 10 years, came under my notice with a history of four weeks' illness, with vomiting and swelling of the abdomen. He was very ill, and though there was no obvious jaundice there was bile in the urine. The liver was large and firm and there was ascites. He only lived a week, and drifted, as the preceding case had done, into a condition of meningism with fever and fatal coma after paracentesis.

The post-mortem examination showed chronic meningitis with advanced endarteritis of the vessels of the circle of Willis. The liver, both macroscopically and microscopically, showed parenchymatous changes as in the previous case. The spleen was large and firm and was surrounded by adhesions. The kidneys were firm and they showed epithelial destruction.

This case was almost a duplicate of the previous one, except that here there was no evidence of syphilis during life. It resembled the first in the age and sex of the patient and in the prolonged history of fits before the fatal hepatic illness, which was rapid in development and acute in its course.

I am indebted to my colleague, Dr. F. S. Langmead, and to Dr. J. G. Forbes for the pathological findings in these two cases.

Here, again, we come to the special interest of this case. Three years before the final illness this boy *had developed fits*, attributed to a fall on the back of his head. They occurred about twice a month, were not preceded by an aura, and consisted in slight

twitchings of the hands and face followed by unconsciousness and sleep. He was one of six children, all the others being, it was said, in good health. Since the first fit he had become morally deficient and mentally backward.

The next case illustrates, I think, a warning of the same sequence of events, but as the child, now an adolescent, is still alive, and the condition was quite a passing one, I only put it forward as suggestive. A boy, aged 7 years, was brought to hospital in August, 1904, for "fits," from which he had suffered for three years. In this instance there was *a history of "fits"* on the maternal side, and his mother admitted that she had suffered from syphilis. This boy, as in the preceding case, had seemed dull and backward since the first attack. There was apparently nothing unusual about the fits, which were of the major type, but headache was a prominent symptom not noticeable in the other two cases. There was no optic neuritis. Bromides relieved but did not quite stop the attacks. In December, 1906, more than two years later, he suddenly developed jaundice, with pale stools and bile in the urine. His liver then became palpable. Fortunately this symptom rapidly passed off, although I was quite prepared for a repetition of disaster. Naturally I am inclined to think that the anti-syphilitic treatment which I pushed then, combining mercury and iodide, helped recovery, although as this is the only case which I have to bring forward in support of this view, it must be left open to opinion, for it is, of course, possible that there was an intercurrent catarrhal jaundice. Later, in 1907, mercurial treatment was intermitted, and a fungating ulcer appeared on the right calf, which was thought to be the result of the bromide treatment. A return to mercurials promptly cured this ulcer. Since that time until the present date the most interesting feature to me has been the variable mental state. Waves of mental dulness seem to pass over the child, which, although possibly in part due to the bromides, are certainly not entirely a result of this drug. After he was twelve years I transferred him to University College Hospital, and continued steadily with the treatment. The result has been a really remarkable one; all the "fits" have long ago ceased, and his mental condition has steadily improved, so that now he is an intelligent if delicate-looking boy.

These cases occurred before the Wassermann reaction was known to us, but I think the evidence as to their nature is sufficiently convincing. They warn us not to forget that the reaction may be of some assistance in arriving at an early diagnosis of the underlying cause in these cases of epilepsy, and may, perhaps, prevent the

lamentable sequence of events that occurred in the two first I have described.

This short study of cases of jaundice brings home to us how far we are drifting now from the narrow channel of thought which was favoured by the conception of jaundice as due to a mere obstruction to the flow of bile. I readily admit that the lines in this article are drawn in with hardness, and that the future may soften them down where choluric and acholuric jaundice are concerned, but these cases, apart from this, are in themselves interesting ones.

A FATAL CASE OF WIDE-SPREAD ULCERATION LIMITED TO THE SMALL INTESTINE.*

By Sidney Phillips, M.D., F.R.C.P.

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A boy had an attack of rheumatism at the age of seven, a second attack after scarlet fever when he was aged nine, and a third attack in November, 1911, when he was aged ten. On January the 4th, 1912, he began to suffer from acute abdominal pain and vomited everything he took. By medical advice he was kept in bed and given only hot water, and after forty-eight hours the vomiting ceased, but occasional paroxysms of abdominal pain continued; the bowels were opened daily, and no blood was ever passed. The boy's parents and five sisters and brothers were all healthy.

He was admitted into St. Mary's Hospital on January the 18th. He was a thin, pale boy; temperature normal. The abdomen was tumid, and there was deep tenderness in the umbilical region; no other sign of disease in any other organ could be discovered. On January the 25th and 26th he had slight recurrence of pain in the abdomen, but the temperature never rose above 99·2° F. He improved in general health and left the hospital on February the 8th; after that, while at home, he had occasional attacks of abdominal pain, and on May the 15th he got headache, and the pain in the abdomen became very severe, especially on the left side. There was no vomiting or diarrhœa.

He was re-admitted into hospital on May the 18th in a collapsed

* A paper read before the Medical Section of the Royal Society of Medicine on November the 26th, 1912.

condition, with feeble pulse and clammy sweats ; the abdomen was tumid as before, but much more tender.

On the following day my colleague, Mr. Cope, opened the abdomen in the middle line. The appendix was swollen and there were a good many adhesions in its neighbourhood, which were freed, and the appendix was removed. The small intestine was noticed to be intensely gorged with blood. The patient died on the following day.

At the post-mortem examination by Dr. Spilsbury the peritoneum contained a little blood-stained fluid. The coils of the small intestine were a little distended, and were slightly glued together and to the abdominal wall by a small amount of recent plastic lymph ; the small intestine for about the middle third was extremely congested on the outer surface and of a deep red colour, and there was a considerable amount of hæmorrhage into the mesentery under the peritoneal reflection ; the congestion faded gradually away towards its upper limits. On the outer wall of the congested part were two or three small rounded areas of light yellow colour, with sharply defined margin ; they had almost the appearance of infarcts ; the peritoneum was not thickened over them. There was no thrombosis of the mesenteric vessels. On opening the small intestine its inner surface was seen to be intensely congested, and over large irregular areas was entirely denuded of mucous membrane, the submucous and muscular coats being exposed. The yellow areas noted above appeared as shallow ulcers, but except for this there were no solitary ulcers ; above and below the congestion and ulceration became gradually less marked until they finally gave place to apparently healthy bowel about three inches above the cæcum. The large intestine was quite healthy. The other organs were healthy except for some old pleuritic and slight pericardial adhesions.

I have not been able to find in any medical or pathological work the record of any case in which were found such lesions as existed in this case, situate in and limited to the small intestine. The ulceration was quite unlike that arising from typhoid fever or tuberculous disease, or other known pathological causes of ulceration of the small intestine. The wide-spread denudation of the mucous membrane and destruction of the deeper tissues with irregular-shaped ulcers exactly resembled the condition seen in some cases of acute ulcerative colitis. The causation of the disease is unexplained ; but there is evidence that colitis may sometimes result from articles of food ingested—perhaps frozen or otherwise preserved—and it is possible that this case, in which the small intestine alone was affected, arose from a similar cause. There is nothing against this

in the fact that in colitis the large intestine, and in this case the small intestine, was affected, for certain poisons have selective actions on different parts of the alimentary canal; thus corrosive sublimate produces acute inflammation of the large intestine, and tartar emetic poisoning leads to intense inflammatory conditions in the small intestine. Indeed, though the possibility of the present case having resulted from administration of tartar emetic was out of the question, the symptoms that occurred and the lesions found post mortem were more like those arising from tartar emetic poisoning than anything else. When the case first came under my observation the only symptoms were pain and tumidity of the abdomen, and it resembled a case of tuberculous abdominal disease. On the second admission to hospital the boy was in a state of extreme collapse with distension of abdomen, and the possibility of perforation was entertained.

HYSTERICAL PHOBIA IN A CHILD; THE PRINCIPLES OF THE TREATMENT.

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A boy, aged 8 years, was seen with Dr. A. R. Tynes, at Staunton, Virginia, in the autumn of 1911. The preceding May he had developed what his parents called hallucinations, which only occurred when he was alone, for he would go errands and play about if he knew he was in sight of anyone at all. There were no night-terrors, although he feared going to bed alone, and his mother or father always accompanied him upstairs. Whenever he was alone a spell would occur. The hallucinations were accompanied by a loud cry and a twisting backwards of the neck and contortion of the body. He was rarely still, wriggling about nearly all the time in an excitable fashion. His father and maternal uncle are declared to have had similar attacks in childhood. But it could not be ascertained that the parents had not spoken of some of these before the boy. The mother was over-anxious, "hysterical," and very uneasy when the boy was out of her sight, of which the boy was well aware.

Examination revealed no physical signs of disease of the nervous or any other system. In anamnesis I found him a sensible little fellow, and I ascertained that it was a snake which he usually saw,

although sometimes a wild beast would be seen. His shout was really the name of the animal he saw. He could not describe the snake except to say its head was like an eel. He remembered well the first such occasion of fright, and the creature then was not a snake but a rooster. He declared that he was never actually afraid of any animals. Indeed, on one occasion, wearing a red sweater, he chased a bull away with stones. On another occasion he went into the cellar to look for the bogey-man. He said that his only fear was that of being whipped by his father when he was naughty, and that of this he was "not very frightened."

I could not, in the short time at my disposal, penetrate the psychogenesis completely. My questions soon showed that the hallucinations were not true ones, for when I asked the boy if when he looked round there was really an animal jumping on his shoulders, he had to reply "No"; and that he never actually saw, heard, or felt what he feared. He then spontaneously declared, "I reckon my imagination gets away with me." I then asked him, "Why do you look round each time you fear the animal behind you?" He said, "It does not give me time to think of it; it comes so quickly sometimes, and I shout and run before I can recover myself." When asked, however, he said he was not easily startled as a rule.

Diagnosis and prognosis.—Familiarity with the mechanism of terrors of children enables one to interpret this boy's case as a phobia against being alone, produced by the foolish anxiety of his mother. This affective state was an induced one therefore, produced by the idea of some "dreadful consequences" which might occur to a little boy when not protected by his elders. But the morbid reaction had become a habit, so that even though the initial cause were suppressed, training would be required to overcome the facile inductibility of the terrors. Inhibition of his undue impulsivity should also be undertaken.

Treatment.—Accordingly, the following procedures were outlined, and the reason for them clearly explained to the boy and his father. First, he must gradually accustom himself to go out alone, first for half a block, then for a whole block, and finally round the corner. While doing this, he could hold himself in hand, his attention fully awake to the need of manly behaviour and the importance of recovering from his timidity. Secondly, he must learn to go to sleep without anyone else in the room, remembering what a nuisance a boy is who cannot forego keeping one of his parents constantly at home in the evening. Thirdly, he was shown exercises in slow movement and mobilisation by which he could suppress the wriggling

tendencies of his limbs and body. His mother should be dealt with rationally also.

Wishing to obtain more precision as to the psychic mechanism, I wrote to the boy asking him to tell me whether he seemed to be in a dream-like or in an absent condition when the fears assailed him. I also, of course, wished to stimulate the practice of the re-educative precedures I had prescribed. The following reply was made, and I recently heard from Dr. Tynes that the boy remains well.

"Dear Doctor,—I have your letter, I do not see any animals since I saw you. I never did hear or feel them, but used to see them. It is not like a dream. I hope I can soon write you I am well. Your little friend.

I heard from the father of the little boy that he undresses and goes to bed alone, and is getting a good hold over himself.

The diagnosis of hysteria.—The mode of treatment of which the case is an example must be founded upon an accurate diagnosis, more especially where organic or functional disease is present in addition to hysteria. Indiscriminate use of persuasion, however rational, will bring only discredit to the physician who employs it. The most careful discrimination is required in some cases to differentiate that portion of a syndrome which is psychogenic. And where organic disease of the nervous system is what is simulated, an exact and wide knowledge of neurological signs is essential for a correct diagnosis. For, although hysteria may resemble apparently closely the condition produced by an organic or functional disease, differences always exist, which can be detected, however, only by one versed in minutiæ of clinical neurology. For certain aspects of these, reference may be made to the writings of Babinski and his followers, and to the author's "Nature of Hysteria," 'International Clinics,' 1908, iii, p. 44; "Simulation of Hysteria," 'Amer. Journ. Insanity,' 1910, lxvi, p. 287; "Reflexes in Hysteria," 'Month. Cyclop.,' 1910, xiii, p. 346; "Essential Differences of Hysteria and Psychasthenia," 'New Orleans Med. and Surg. Journ.,' 1909, lxi, p. 959; "Hysteria and Pseudo-Hysteria," 'Amer. Journ. Med. Sci.,' 1910, cxl, p. 378.

Therapeutic means.—The methods which have been used to attack hysterical fixed ideas may be divided into the following four categories:

(1) *Mystical impressions.*—This has been used in all ages with powerful effect even upon those who are ostensibly among the most highly educated. A consideration of the mechanism of this method would lead me too far in what is a practical therapeutic presentation.

(2) *Suggestion, direct or indirect, whether in hypnosis or not.*—This method is a very crude one, and merely aims at removing a symptom by side-tracking it, and using a mental mechanism quite similar to that which has caused the symptom. It is as short-sighted as the giving of morphine for the pains of appendicitis; for it merely masks and thus perpetuates a condition at the root of the trouble. Moreover it often fails to remove the symptoms against which it is aimed—a fact beautifully illustrated by cases. When successful it is often only fugitive, and the relapses are tenacious.

(3) *Emotional appeal.*—It is uncertain if this measure, in its purity at least, is ever the effective force in the transformation of a hysterical symptom, for it is impossible to divorce it from the ideational element, upon which it must always rest, even in the most primitive beings. Many psycho-pathologists believe the contrary, because of the fact that cold intelligence is powerless in therapeutics, and requires for a dynamic result the affective constituent needed for conation. But a little reflection makes it clear that the affect is, so to speak, only the background of the idea, and that the act or thought (for they are the same psychologically) which ensues upon psycho-therapeutic intervention takes its direction from the idea by which it can be differentiated from other ideas, of like affective quality, but very different in their effects in accordance with the difference of the controlling idea they present.

For instance: A good example was the cessation of a young woman's infatuation for her lover as soon as the idea of his handsome attractiveness was substituted by Professor Janet by the idea that he was repulsive. This was accomplished by suggestion that she would be unable in the future to picture her lover's face except in the form of that of a pig. Here the affective difference towards this man was not produced by direct emotional appeal, but resulted purely from a change of ideas.

Another instance on a large scale is the transformation of many a man's normal affection towards women into a loathing for her on account of the teaching of the church that she is unclean. The efficient factor in this transformation is the idea. The men still have the same feelings, but they are perverted from their proper end towards an ideal by a conceptual difference not essentially affective. Business morals, too, afford instructive examples.

(4) *Rational persuasion, comprising enlightenment and re-education, motor, sensory and psychic.*—Although psycho-analysis of the whole of a patient's life is very rarely required, as cases clearly show, yet it can be spared only in proportion as the investigator possesses (1)

the diagnostic differentia of nervous disorder, (2) knowledge of psycho-pathology, and (3) finesse in anamnesis.

Even if the pathogenetic factor is not found by these means, yet reconstruction of the patient's attitude can be begun. In many cases this is best accomplished by the patient's own physican, but there are some patients who require the frequent adaptations only possible to a psycho-therapeutic technician of experience.

It would require far too much space to give therapeutic details or even principles here, although it is unfortunate that there is, so far, no clear and succinct presentation of the subject. (A short presentation was made to the Neurological Section of the American Medical Association, *vide* 'Journ. Amer. Med. Assoc.,' 1912, lix, p. 2224.) However, most psycho-therapeutic literature is concerned with what is really hysteria, although it is often presented under other names.

The most important essential of the successful therapeutist is that he thinks not in artificial categories, but in terms of dynamogenesis, and this not only as regards the source of the patient's hysteria, but equally so as regards the means of disencumbrance to be used. No treatment should be attempted until a clear diagnosis is made. The patient's co-operation should be enlisted from the first, even although full enlightenment may not be expedient at the beginning. But, of course, strong meat is not for babes, and the dose of psychology must be strictly adapted to the understanding of the sick one.

After all, psycho-therapy is merely a combination of special knowledge with good sense and honest purpose. Until these qualities are more common or more readily available, a large number of hysterics will continue to drift from the physician by whom they are not relieved to the faith healer and other charlatans, whose suggestions they in turn undergo with little more benefit on the whole; for the temporary relief they so often obtain is usually at the cost of an increased hysterisability, which is certain to show itself later, if not in symptoms of physical appearance, at least in psychological instabilities most detrimental to the society in which they live. Hence, it behoves the medical profession to instruct the coming generation in the psychological principles which are the groundwork of a prophylaxis and therapeusis of the most prevalent of all human tendencies—hysterisability.

CONGENITAL RENAL AND URETERAL ANOMALY*

By J. D. Rolleston, M.D.
Assistant Medical Officer, Grove Fever Hospital, London.

The anomaly to be described was found at the necropsy of a boy, aged 12 years, who died on November the 8th, 1912, from generalised paralysis following very severe faucial and nasal diphtheria on the forty-seventh day of disease.

The amount of urine passed during the first eighteen days ranged from 21 oz. to 37 oz. in the twenty-four hours. Albumin was present in the urine from the third to the thirty-eighth day.

The necropsy, which was held on the day after death, showed hypostatic congestion of both lungs, thickening of the left ventricle and dilatation of the right ventricle. Examination of the abdominal cavity showed that the right kidney was absent, together with the corresponding renal artery and vein and suprarenal. The right ureter, however, was present, and extended upwards from the bladder to the mid-lumbar region, where it ended blindly. It measured 5 in. in length. The left kidney was situated in the usual position and was considerably enlarged, being $4\frac{3}{4}$ in. long, 2 in. broad, $1\frac{1}{2}$ in. thick, and 6 oz. in weight--practically the measurements of the adult organ. There was partial duplication of the ureter, the upper branch, 4 in. long, supplying the upper third, and the lower branch, $3\frac{1}{2}$ in. long, supplying the lower two thirds of the kidney. The branches united 3 in. from the bladder at the brim of the pelvis. On opening the bladder the right and left ureteral orifices were seen to be of the same size. The patency of the right ureter was proved by the readiness with which a platinum culture needle could be passed from the vesical orifice to the blind upper extremity.

There were no congenital abnormalities of the genital, circulatory or other systems.

It is a well-known fact that there are no symptoms peculiar to single kidney, which in this case, as in most of those on record, was a necropsy surprise.

The abundant and persistent albuminuria was such as is usually found in malignant diphtheria. The amount of urine was meaured during the first three weeks of the disease, merely to serve as a guide to prognosis, a marked diminution in the urine during the

* Specimens of the cases were shown at the Children's Section of the Royal Society of Medicine on January the 24th, 1913, and are now in the Museum of the Royal College of Surgeons.

acute stage of diphtheria being of bad omen. There was no oliguria in the present case, the single kidney being perfectly able to do the work of two.

Whether the violent attacks of abdominal pain were associated with the abnormal condition of the kidney or ureter I am unable to say. There was no evidence, however, of any calculus, to which single kidney seems to be unusually predisposed (Morris).



Renal and ureteral anomaly. (From a drawing by M. E. Waring.)

It is interesting to note that the blood-pressure, which had fallen from 100 mm. on the third day of disease to 80 mm. on the ninth, rose with the onset of late paralysis to 110 mm. on the thirty-seventh day, and on the day before death to 120 mm. and 130 mm. This rise of blood-pressure was probably not connected with the renal condition, but was such as often occurs in late diphtheritic paralysis, and was possibly due, as I have suggested elsewhere, to an irritative condition of the vaso-motor centres in the medulla, in which the other nerves have undergone a varying degree of paralysis.

The case is one of unusual interest from the anatomical, medical and surgical standpoints. As far as I have been able to ascertain from a study of the literature, no other cases have been recorded of asymmetrical kidney with partial duplication of its ureter co-existing with a patent ureter on the side on which the kidney is absent. The condition of single or asymmetrical kidney is by no means common, being found, acccording to Morris, in only one out of 2400 autopsies; 213 were collected from literature by Ballowitz in 1895, 286 by Anders in 1910, and 300 by Dorland in 1911. Probably these figures are too large, some of the cases, especially those recorded by the earlier writers, being examples of fused and not of single kidney.

The congenital absence of the kidney is due to failure of the Wolffian duct to throw off the corresponding renal bud after the duct has reached the cloaca.

Duplication of the ureter, which is usually incomplete, as in my case, is not so very uncommon, being found in 1 to 2 per cent. of all corpses (Lessing). The association of single kidney with complete or partial duplication of the ureter, though uncommon, is not unique, cases having been recorded by Morgagni, Blaise, Rufz, Laroche and Gérard. The last authority regards the association of double ureter with single kidney as a pure coincidence. The presence of a ureter on the side on which the kidney is absent is very exceptional. Out of 286 cases of single kidney collected by Anders, there were only 24 in which a more or less rudimentary ureter was present on the side on which the kidney was absent. In the majority of these the ureter was impervious, and I have been able to find only six other cases besides my own in which the ureter was patent throughout its entire length (Haberer, Hallopeau, Horand, Nelson, Paulicki, Winter).

The medical interest of single kidney lies in the frequency with which the organ is liable to disease. According to Anders, 79 out of a total of 170 cases or 46·5 per cent. in which renal lesions were recorded showed morbid changes, and 42·3 per cent. some form of chronic nephritis. The outlook in these cases is less hopeful than when both kidneys are present.

The surgical importance of single kidney is impossible to overestimate. The present case shows how important it is before operating on the kidney to ascertain not only whether there are two ureteral orifices but also whether urine escapes from both—in other words, not only is cystoscopy necessary, but also catheterisation of the ureters. The partial duplication of the ureter adds a further

difficulty. In catheterisation of the kidney collection of urine from the upper or lower branch respectively would give an erroneous idea as to the functional value of the organ. At present no instrument has been invented to detect this anomaly (Jeanney). In Mauclaire and Séjournet's case the upper two-thirds was served by one ureter and the lower one-third by the other, while in Jeanney's case, as in my own, the upper one-third of the kidney was supplied by the upper branch, and the lower two-thirds by the lower branch of the double ureter.

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Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, February the 28th, 1913.

Mr. A. H. Tubby, *President, in the Chair.*

Slight Congenital Deformity of the Hands in a Child.—Dr. F. Parkes Weber.—The deformity consisted in partial flexion of the fingers at the metacarpo-phalangeal joints. The child could use his hand fairly well to grasp with, but could not completely extend any of the fingers except the left index finger. Both the little fingers could, however, be *passively* completely extended. In some spontaneous positions of the hand slight ulnar

deflexion of the fingers was likewise noticeable. The patient, a boy, aged 17 months, was born at full term, easily without instrumental help. He was the only child of healthy parents, who were both young. The mother had had one miscarriage before the child was born. There was no history of any similar deformity in the family, nor was there any special family tendency to arthritic affections. The child had a little convergent squint, and possibly slight hydrocephalus. He likewise presented some rachitic "beading" of the ribs, but otherwise appeared well developed and mentally normal. The position of the hands at first suggested the carpopedal contractions in tetany, but the child had no facial irritability, and nothing else which would in the slightest degree suggest tetany. The feet and toes were quite normal in shape and position. Since the child was two months old the mother had practised a kind of massage with passive movements for his hands, and thought that he could use his fingers better as a result of her treatment. Skiagrams of the hands showed nothing special. There seemed to be no disease in the joints. Dr. Weber had not heard of any exactly similar case. The fault seemed to lie chiefly in the muscles which extended the first phalanges.

In the discussion which followed, the PRESIDENT expressed the opinion that the condition was due to congenital tightness of the palmar fascia.

Infantilism due to Mitral Stenosis.—Dr. F. PARKES WEBER.—The patient, a girl, aged 15 years, had the stature and appearance of a girl of ten.

A Case of a Mongoloid Child.—Dr. F. G. CROOKSHANK.—The boy was a Mongoloid of undoubted European parentage, in whom ethnic characters, conforming to a type of racial Mongolism, were well marked without the coincidence of any trace of rickets, tuberculosis, syphilis, dysthyroidism, or other disturbing factor. There was no coarse bodily or mental defect, and such features as the fissured tongue and the orangoid ear, so common in Mongoloids of the lower grades, were absent. But some traits were present that were simian or orangoid. The child, aged 5 years, was the younger of two sons born to a father who was aged 38 years and a mother who was aged 28 years. The elder brother, aged 7 years, was thin and nervous. The patient himself had a yellow skin and dark hair, though his mother stated that at birth he was "almost black." His hair was fine, his eye-focus of a characteristic form (though the eyes were not "oblique"), and his profile was distinctly Chinese. The head, as in a certain proportion of Mongoloids, especially of higher grade, was well developed occipitally. The lips were extraordinarily plastic, and the boy, when in the mood, would project them in trumpet form and hoot in imitation of a motor-car, producing noises precisely like those emitted by anthropoid apes. In both jaws the canine teeth were markedly long and tusk-like. The lower incisors were small, and the lateral incisors in the upper jaw were notably smaller than those which were central. The testicles were small and probably descended late. He had what had been called a "high pelvis," the crests of the ilia appearing to rise high in the loins, so that the folds of the groins included a more acute angle than usual. He was highly estimated by his comrades as a contortionist.

Mongolism in a Baby aged 3 months.—Dr. EDMUND CAUTLEY.

Two Cases of Congenital Coalescence of Radius and Ulna.—Mr. J. E. ADAMS showed two children in the same family in whom deformity had

been noticed from birth. Both forearms were held in a position of pronation, and although there was movement at the inferior radio-ulnar articulation, supination was almost absent. There was a forward and outward curve in the shaft of the radius. Skiagraphy had shown that the radius was fused with the ulna a short distance below its head, and the deformity was the same in both forearms and in both children. By the kindness of Mr. S. G. Shattock he was enabled to show a specimen from the museum of St. Thomas's Hospital which illustrated precisely the same deformity. A similar case had been described by Dawson ('Brit. Med. Journ., 1912, ii, p. 833).

The PRESIDENT and Mr. E. LAMING EVANS, speaking from observation on a similar case, advised against operative measures.

Lymphangioma of the Axilla.—Mr. DOUGLAS DREW.—A baby aged 9 months was admitted to hospital with a large, soft, lobulated tumour of the axilla. The tumour occupied the whole axillary space extending up to the clavicle, and required an extensive dissection for its removal, as it surrounded the vessels and nerves. In order to facilitate this the pectoralis minor was removed with the tumour.

Cicatricial Contraction of the Thumb following a Burn about eighteen months previously.—Mr. DREW. – Skiagrams showed the thumb drawn back and bound down to the wrist by dense fibrous tissue. After dividing the contracted tissue and liberating the thumb the raw surface was covered by a large flap cut from the back of the hand.

Separated Epiphysis of the Femur Treated by Plating.—Mr. DREW. —The operation was performed on December the 9th, 1909. The child had been temporarily lost sight of, and was exhibited because the plate had not been removed. A skiagram showed that in the process of growth the screw in the epiphysis had been gradually drawn out; there was no shortening of the limb, and the movements were free. As the plate caused no inconvenience and was not hindering growth it did not appear necessary to remove it.

Costo-transversectomy: Spinal Caries and Mediastinal Abscess. —Mr. EDRED M. CORNER.—A boy, aged 6 years and 5 months, was admitted to hospital on December the 6th, 1909. On admission there was some kyphosis in the lower dorsal vertebræ, with indications of abscess formation on the left side at the level of the eighth dorsal vertebra. Skiagram (November the 30th, 1909) showed the existence of a large mediastinal abscess in front of the lower dorsal vertebræ. Costo-transversectomy was done on December the 14th, 1909, the abscess being opened and drained on the left of the spinal column at the level of the eighth dorsal vertebra. A skiagram (December the 29th, 1909) showed the abscess cavity and some destruction of the ninth and tenth dorsal vertebræ especially in the transverse processes of the left side and in the heads of the corresponding ribs. By two operations, on February the 18th and March the 16th, 1910, the abscess cavity was scraped. On May the 17th, the heads of the ninth and tenth ribs on the left side were excised. A skiagram (July the 8th) showed no indication of abscess cavity remaining; there was formation of new bone in the damaged ribs. On November the 22nd, 1910, a sinus was scraped. On February the 28th, 1911, the patient was sent to a convalescent home in a Phelps's box, still having a small sinus. He was readmitted on October the 1st, 1912. On October the 3rd, 1912, an emulsion of bismuth and iodoform

was injected into the sinus. A skiagram showed a small cavity containing bismuth and considerable destruction in lower dorsal vertebræ, especially the eighth, ninth, and tenth. The sinus gradually closed after the injection. When exhibited the patient had a marked but not extreme degree of kyphosis in the lower dorsal region. On the left of the spine at the level of the ninth dorsal vertebra there was a depression marking the position of the old sinus, which had healed. A skiagram (February the 10th) showed no abscess formation, but there was destruction of the bodies of the lower dorsal vertebræ, especially the ninth and tenth.

Congenital Absence of Fibula, Deformity of Tarsus, and Absence of Toe.—Mr. Corner.—The patient was a baby, and presented the appearance characteristic of the condition. A skiagram showed the absence of the fibula. The tibia was bowed sharply and seemed shorter than the other. The summit of the convexity of the tibia was sharp and presented a groove or dimple over it. The movements of the ankle-joint were somewhat restricted. Apparently the fifth toe was absent. The doctor who first saw the patient diagnosed an intra-uterine fracture which had united. The absence of the toe led to the correct diagnosis, confirmed by the skiagram, of "congenital deformity of leg." In addition the skiagram demonstrated the characters of the deformity: absence of fibula, one centre of ossification representing both the astragalus and calcaneum, absence of the fifth toe and its metacarpal.

Chronic Albuminuria with Hepatic Enlargement.—Dr. Cautley showed a girl, aged 8 years and 2 months, the daughter of healthy parents, but whose grandparent and great grandparent were said to have died from phthisis. She had had measles, varicella, mumps and pertussis. During 1910 she was an in-patient at another hospital for four months for albuminuria. Later on a gland was excised from the left side of the neck, and tonsils and adenoids were removed. From June the 20th to July the 8th, 1911, she was admitted to the Belgrave Hospital for bronchitis, albuminuria, and right otorrhœa. Two months before this she had had pneumonia, bronchitis and measles. The attack of bronchitis subsided quickly. Her urine contained much albumin but no casts. A year later she was again admitted for bronchitis and the urine was found to contain a fairly dense cloud of albumin. In November last she was admitted for prolapsus recti. When exhibited she had been an in-patient since January the 28th for an attack of bronchitis and anasarca. The face and legs had been moderately swollen for four days. The liver extended 2 in. below the ribs and the spleen was palpable, the abdomen being considerably distended, though there was no dulness in the flanks. The urine contained 0·2 to 0·7 per cent. albumin. A centrifugalised specimen on February the 12th showed many white cells, several granular and hyaline and a few epithelial casts. The total daily amount of urine varied greatly—*e. g.* 12, 22, 30, and 13 oz. on successive days. Von Pirquet's reaction was negative and there was no reason to suspect syphilis. The case was shown with a view of eliciting opinions as to the nature of the albuminuria, the causation of the hepatic enlargement, and the probable prognosis.

Summer Diarrhœa and Summer Heat.—Dr. H. Charles Cameron read a paper, in which he emphasised the importance of temperature and environment as direct causes of summer diarrhœa, in contra-distinction to infection.

Philadelphia Pediatric Society.

January the 14th, 1913, Theodore Le Boutillier, M.D., President.

Urticaria.—Dr. Eleanor C. Jones showed a boy, aged 2½ years, with urticaria pigmentosa. The primary lesions were those of urticaria, and appeared at the age of two and a half weeks. They promptly disappeared and then reappeared, commingled with bullæ which desiccated and were covered with crusts. Finally the lesions became pigmented. There had never been itching. The entire cutaneous surface is now covered with brown lesions, papular in character, varying in size and shape from small rounded or irregular oval to large confluent patches. The eruption, while most marked on back, chest and abdomen, extends to palms and soles and may be noted on the penis and ears. Wassermann reaction was negative. Staining a section of the skin showed mast-cells in the corium. As these are characteristic of the disease their presence confirms the diagnosis. The child is anæmic, suffering from intestinal indigestion. The urine until recently has showed indican in large quantities. No successful treatment has yet been found, as the patches seem to fade out about the age of adolescence.

Dr. Jones also presented a case of urticaria factitia, dermographic urticaria, in a girl, aged 8 years. She belongs to a neurotic family and is herself very nervous.

A Case for Diagnosis.—Dr. S. McC. Hamill showed a case, the diagnosis of which had been tuberculous meningitis. All the symptoms usually found in this condition were present, but four separate examinations of the cerebro-spinal fluid showed nothing abnormal. The child had been ill two weeks before admission and grew more ill during the next ten days, when his condition was alarming. Improvement began after the fourth spinal puncture, when 20 c.c. were removed. There was no pressure, however. At the height of the illness there were complete ptosis of the left eyelid, partial paralysis of right side of face, general rigidity, marked retraction of head, irregular Kernig's sign, intermittent exaggeration of the knee-jerk and Babinski's sign. Von Pirquet and Wassermann reaction were negative. When the patient was shown, six weeks after the onset, recovery was complete, except for slight drooping of the left eyelid.

The Bacteriology of Diphtheria.—Dr. Kolmer read part of the Pediatric Society Prize Essay for which he was awarded one hundred dollars. He attempted to differentiate among the various types of diphtheria bacilli, and especially between the pseudo-diphtheria and true diphtheria bacilli, by complement-fixation reactions. Immune serums were produced in rabbits by eight different strains and tried out with homologous antigens. The various serums and antigens were then interchanged. The results indicated on the whole that such differentiation between the members of the group was not decided. Similar experiments with raw diphtheria antitoxin obtained soon after bleeding showed no relation between the degree of complement fixation and antitoxin content. The results of the work indicated that Hoffmann's bacillus belongs essentially to the diphtheria group and is not a separate entity in the sense of being totally unrelated. It is probable that this

bacillus is an example of "mutation," and is capable of transmitting its new qualities through an indefinite number of generations. The types of bacilli were studied and recorded in 253 cases of diphtheria. The granular varieties were found to predominate in the largest proportion of cases of clinical diphtheria whether the disease be located in the nose, pharynx or larynx. Cultures of these cases were also studied in reference to changeability of types during the course of the disease. The results of 237 animal inoculation tests were also given. It was found that the granular types gave the highest percentage of positive tests. No mattter how long they persist in the throat after recovery, they should be regarded as dangerous until proven otherwise. The value of animal inoculation tests was especially appreciable when dealing with solid types of bacilli when these persist in the tissues over a long period of time or when found in contact and carrier cases. Acid-production tests were conducted with sixty-two strains. Dr. Kolmer advocates the following scheme, modified from after Wesbrook, for the bacteriological diagnosis and management of diphtheria. (1) Hold the granular types, A, B, C, D and E as significant, regardless of the clinical condition or history of the patients or the presence or absence of other types. Cultures of these types from carriers or from persons running a prolonged list of positive cultures should be tested for virulence. (2) Regard the barred types, A_1, B_1, C_1 and D_1 as doubtful unless granular bacilli are also present, when a positive diagnosis is given. (3) Hold the solid types, A_2, B_2, C_2 and D_2 as doubtful and request another culture. If granular bacilli are present, a positive diagnosis is given. If subsequent cultures show the same solid types and if the patient is free from clinical evidence, they may be regarded as negligible. It is in dealing with these types that we feel the greatest need for clinical co-operation, because clinical diphtheria may in exceptional instances be caused by these bacilli although in the majority of cases the D_2 type is a negligible organism. (4) Regard E_1, E_2, F, G, F_1 and F_2 as negligible. (5) Test the virulence of all cultures of solid types of bacilli after the patient has recovered and is being quarantined over a long period of time by positive cultures. These inoculation tests are especially indicated with cultures from the nose or ear. If the above method is employed by the bacteriologist and if three successive negative cultures are required instead of two before the termination of quarantine combined with the judicious use of the animal inoculation test in suitable cases, the bacteriological diagnosis and management of diphtheria will be efficient and satisfactory to all.

The Wet-Nursing of Foundlings.—Dr. W. Estell Lee.—The object of the Children's Aid Society of Pennsylvania is to give to homeless and neglected children a home with private families in the country districts of the state.

The simplest form of such a problem is the placing of a normal child of a working age, and this can usually be done without the payment of board by the Society. But physical defects, sickness and a decreasing age increase the difficulties and expense to such a degree that it was impossible, before this year, for the Society to accept the extreme type of dependency, the sick infant. The unusual expense and high mortality of the work with sick infants resulted in the Society refusing to receive them, and they remained in the maternities, foundling asylums and almshouse.

The suggestion was made to the Society that our mortality with these infants would be lessened by providing them with wet-nurses. After several conferences with the institutions and physicians of the city it was decided

that the prohibitive expense of wet-nursing might be decreased by the establishment of a bureau of wet-nursing.

The bureau consisted of one of the agents of the Society, a trained social worker, of the office force and equipment of the Society for the keeping of records, of the physician nurses, examining rooms, shelter and organisation of the medical department of the joint receiving shelter.

The wet-nurses were obtained by advertising in the daily newspapers, by personal visits to the maternity hospitals and other institutions, and by letters to the physicians and Board of Health making them familiar with the bureau and the possibility of employment for nursing mothers.

During the last nine months 153 women applied to the bureau, but only 41 of them were accepted.

Upon the receipt of an application a personal visit was made by the agent of the bureau and a thorough investigation made of the social and sanitary conditions of the home. Sixty-three of the applicants were rejected because of the impossible conditions in the homes. Eleven withdrew before investigation and 38 refused to be examined by the physician. If the applicant received the approval of the investigating agent she then received a thorough physical examination by the physician. This examination included a Wassermann test of the blood and a von Pirquet tuberculin test. Fifteen of these women were rejected by the physician and three of them because of positive Wassermann reactions. The infants received the same thorough physical examinations, and it will be of interest to know that three infants were refused because of positive Wassermann reactions.

Of the thirty-one babies received for wet-nursing, three died, all within one week after being received by the Society. One of the children refused to nurse and was returned to the Philadelphia Hospital. Two of them, after showing marked improvement during the first three months, developed acute gastro-enteritis during July. Both of these cases were nursed by the same Italian woman, and no doubt were the direct result of the unhygienic conditions in that home. They were sent to the Wynnefield Hospital, where they recovered, and are now placed in permanent country homes and being artificially fed. Two infants developed acute œdema. One was due to nephritis, which was treated at the Children's Hospital, the child recovering. While at the Children's Hospital this child was wet-nursed. The other case of œdema was of unknown origin; after ten days in the Philadelphia Hospital he recovered and is now being wet-nursed. The remaining twenty-three children all developed into normal healthy infants. Eight of them have been weaned, placed upon artificial food and sent to permanent country homes.

Not the least of the difficulties of such a problem is that of cost. At first the fees asked by the women were impossible, some asking as much as fifty dollars a week. And of the 41 nurses accepted, fifteen withdrew because we could not give them the amount asked. But the fictitious character of such fees is shown by the amounts which were paid; thus—

	$
The minimum boarding rate per week . . .	2.50
The maximum „ „ . . .	6.00
The average „ „ . . .	3.52

But with the organisation of the Children's Aid Society, a trained worker and a working medical organisation of the Joint Receiving Shelter, the expense of such an undertaking was materially lessened.

Cost of Wet-Nursing Department.

		$
(1)	Total medical expenditure	52.27
(2)	„ visiting nurse expenditure	238.40
(3)	„ advertising	87.48
(4)	„ cost of trained agent	525.00
(5)	„ cost of incidentals, photos	17.00
(6)	„ transportation	292.30
(7)	„ board for babies	1325.08
	Total	$2538.53

Cost per week.

		$
(1)	Average boarding rate per child	3.52
(2)	„ overhead cost „ „	3.02
	Average cost per week per child	$6.54

Société de Pédiatrie, Paris.

December the 10th, 1912. (Bulletin No. 9.)

X Rays in Hypertrophy of Thymus.—MM. H. Grenet and Sédillot reported this case. In spite of brilliant successes X rays are sometimes inefficacious, and are then a source of danger, valuable time being lost. Unless improvement under their use is immediate and rapid, surgical intervention should not be delayed.

Case of Vinous Hepatic Cirrhosis in a Child of 8 years.—MM. G. Variot and Cailliau.—This case was one of atrophic cirrhosis due to the exclusive use of wine. Lancereaux described this affection, which corresponded to Laënnec's sclerosis or proliferative sclerous hepatitis, and differentiated the degenerative hepatitis due to alcohol with which it is confused by modern authors, and drew attention to the fact that, unlike this form, vinous cirrhosis is accompanied by hypertrophy of the spleen and venous collateral circulation and often by albuminuria. There is also a disposition to pulmonary tubercle at the right posterior apex.

Scarlatinal Encephalopathy.—MM. H. Méry, H. Salin and A. Wilborts.—A girl, aged 7 years, admitted for scarlatina which developed normally, was seized with total blindness, meningeal symptoms and slight transient albuminuria. Contractures, nuchal rigidity and Kernig's sign were absent. Cerebro-spinal fluid was very clear, albuminous, and showed slight lymphocytosis. Urea per litre 0·53 gr. On a water diet and bleeding complete recovery ensued.

Curious Case of Nerve Congenital Syphilis.—MM. Terrien, Babonneix and Dautrelle.—The patient was a male child, aged 17 months,

admitted for optic neuritis. For ten months he had suffered from general muscular atony with disturbance of electrical reactions. Woodcuts are given in the 'Bulletin' illustrative of the condition. The speakers discussed the diagnosis between the syphilitic pseudo-paralysis, infantile paralysis and Oppenheim's congenital muscular atony.

Pulmonary Complications of Scarlatina: (1) Multiple Abscesses of the Lungs and Pyo-pneumothorax; (2) Pulmonary Infarct.—M. Réné Porak.

Hæmorrhagic Broncho-pneumonia, with Gangrenous Ulceration of Intestines and Acute peritonitis.—M. Réné Porak.

A Simple Method of Respiratory Exercises.—M. Pescher.

Case of Myopathy: Leyden-Mœbius type.—MM. H. Grenet and Rousselot showed a child, aged 9½ years, with considerable atrophy of the thigh muscles, a slight degree of pseudo-hypertrophy of the calf, atrophy of the muscles of the upper extremity, slight thoracic deformity and a myopathic facies. The disease had been progressive, and there was now complete paralysis of the legs. The symptoms contra-indicated a spinal cord or nerve affection, and the authors considered it a primary myopathy of the Leyden-Mœbius type, which differed from that of Duchenne in the absence of pseudo-hypertrophy. There was no evidence that the affection was familial.

Vincent Dickinson.

Abstracts from Current Literature.

Medicine.

Tuberculosis in children (*'Norsk Mag. f. Laegevid.,'* 1913, lxxiv, *p.* 1). —**F. Harbitz.**—Among 484 necropsies performed at the Rikshospital, in Christiania, on children aged from 0 to 15 years between 1898 and 1911, 286 cases, or 59 per cent., were free of tuberculosis, and 198, or 41 per cent., showed signs of tuberculosis. Of the latter 119 had died of tuberculosis, in 52 tuberculosis was latent or obsolete, and in 27 the process was latent but a positive culture was obtained. In about 65 per cent. the primary lesion was in the respiratory tract, in 15 per cent. in the lymph-glands, in 10 per cent. in the digestive tract, and in 10 per cent. it was doubtful whether the process had started in the respiratory or digestive system. The percentage of tuberculous infection was 20 in the first year, 26 in the second, 31 in the third, 33 in the fourth, 56 in the fifth, 80 in the sixth, 46 in the seventh, 65 in the eighth, 67 in the ninth, 73 in the tenth, 93 in the eleventh, 69 in the twelfth and thirteenth, 92 in the fourteenth, and 80 in the fifteenth. Illustrative cases are recorded, including the following one of congenital tuberculosis. The child died twenty-five days after birth with symptoms of lung disease. Post mortem the lungs were found studded with small infiltrations, the size of a hemp-seed. Microscopical examination showed the existence of caseous pneumonia. The caseous nodules were

filled with tubercle bacilli. At the necropsy of the mother, who died three days after the child, in addition to chronic pulmonary tuberculosis, general miliary tuberculosis and tuberculous infection of the endometrium at the placental site were found. J. D. Rolleston.

Tuberculosis in infancy and childhood, and preventive medicine (*'Brit. Med. Journ.,'* 1912, II, *p.* 677).—**C. McNeil** gives a series of 371 cases in which cutaneous tuberculin tests were made on in-patients of the Royal Edinburgh Hospital for Sick Children, including cases of active and recognised tuberculous disease. These were arranged in six age-groups, so as to admit of comparison with corresponding figures given by von Pirquet in 1907 relating to tuberculosis among children in Vienna. It was found that both in Edinburgh and in Vienna infection begins in the first year of life, and progressing steadily in successive stages is found to prevail in a high degree about the age of puberty, but in Edinburgh the maximum is almost attained at the age-period of 3 or 4 years, while in Vienna the maximum is lower than in Edinburgh in the earlier age-periods (under four years), but attains a greater maximum than in Edinburgh in the later age-periods. As Edinburgh has a much smaller death-rate from phthisis than Vienna and special defences exist against human infection, and yet the poor child population shows a greater degree of tuberculous infection than does the poor child population in Vienna, during a corresponding period, he is driven to conclude that bovine infection is greater than in Vienna, there being practically only two sources of infection in human tuberculosis—the sputum of man and the tuberculous milk of cattle. Again, the fact that abdominal tuberculosis, which especially prevails in the early years of childhood, is very common in Edinburgh and uncommon in Vienna, supports the view that tuberculous milk rather than human infection is the cause, though it is not denied that abdominal tuberculosis may be caused by human infection. If adult phthisis be in most cases a sequel of latent tuberculosis acquired during childhood, any administrative measures which might reduce or prevent infection of children would have a decisive effect in the campaign against tuberculosis. J. E. Bullock.

Tuberculosis amongst children (*'Lancet,'* 1912, II, *p.* 1343).—**Prof. Nietner,** General Secretary of the German Central Committee for the Prevention of Tuberculosis, in the opening lecture of the new medical school of the Royal Hospital for Diseases of the Chest, London, in October last, stated that during the last ten years researches in Germany had shown that, in a very large number of cases, the infection of tuberculosis occurs during childhood and in the first years of life, Hamburger stating that 90 per cent. of all children up to the twelfth year of life are infected, while Schlossmann states that tuberculosis is a "children's disease" acquired during childhood, and must be prevented and arrested during childhood. As in most cases infection is acquired from a human subject suffering from "open" tuberculosis during the ordinary intercourse of family life; preventive measures are difficult to carry out, owing to social domestic considerations. Nietner recommends special care to safeguard the child in its own home, but deprecates complete separation of the child from its family, thereby weakening family ties and responsibilities. He does not think that tuberculosis is a school disease, that is, that it is spread in schools, but great opportunities rest with the school medical officer in preventing latent tuberculosis developing into active disease; by careful supervision possible

cases could be so picked out that they did not develop active disease during the wage-earning life. In Germany many agencies for promoting the health and welfare of children were closely linked with the school medical service. For tuberculous children open-air teaching was steadily increasing. Nietner strongly recommended tuberculin treatment if properly administered.

J. E. Bullock.

Tuberculosis in children: some German institutions (*'Birmingham Med. Rev.,'* 1912, xx, *p.* 105).—**H. W. Pooler** describes the following institutions for combating tuberculosis in Germany: (1) The Forest School for 240 anæmic or debilitated children in the pine forest of Chalottenburg. Children journey by train from Berlin, and are fed either at the cost of the municipality or for 6½d. a day. (2) Day or convalescent camps consist of a "Döcker" administrative building, and a pavilion for the consumptives open on one side and fitted up with lounge chairs. The staff consists of a physician, a nurse, a cook, a maid and a night watchman. The patient remains from 8 or 9 in the morning till 7 p.m. Each patient has a quart of milk and a threepenny dinner. These institutions are useful for completing the cure begun in a sanatorium, for improving the patient's condition to such an extent as to qualify for a sanatorium, and for the house-wife who is unable or unwilling to leave her house altogether. (3) The Victoria Louisa Children's Sanatorium at Hohen Lychen, situated three and a half hours' journey from Berlin in a dense pine forest and on a sandy soil, consists of three sections: (*a*) 84 beds in permanent and three Döcker buildings for phthisis; (*b*) 100 beds for bone and joint tuberculosis with operating, Röntgen ray and plaster rooms, and complete apparatus for passive movements; (*c*) convalescent department for 99 children, where the boys are taught gardening and field work, and the girls do domestic work. A great point is made of each child having separate washing, dental and chamber requisites of a simple character which can be obtained in the forest home. The length of stay for pulmonary cases varies from three to five months; some of them undergo tuberculin treatment.

Christopher Rolleston.

Tuberculosis in children (*'Practitioner,'* 1913, xc, *p.* 280).—**E. Pritchard** writes an excellent article on this subject. He finds that tuberculous disease is generally of the human type and affects chiefly the lymphatics. He believes more in climatic, dietetic, and general hygienic measures than in tuberculin, which should be given by the "reactionless" method.

F. R. B. Atkinson.

Tuberculosis in young children (*'Arch. of Pediat.,'* 1912, xxix, *p.* 591).—**A. Hymanson** discusses the difficulty in diagnosis by examination of sputum, fæces and cerebro-spinal fluid, and the unreliability of tuberculin given subcutaneously. Eighty-six infants tested by Von Pirquet's and Moro's methods reacted negatively, while in four of the mothers positive results were obtained. The researches of Bondy, Paten and Griemert, Epstein and Schlossmann give similar information, over 800 infants having been inoculated without a single positive result. All infants are born free from tuberculosis, but the researches of the New York Health Department demonstrate that in over one half of the cases of consumption one or more of the children in these families are affected by the disease. Ritter and Vehling took careful histories in 206 cases of adult tuberculosis, and found that in 82

per cent. the infection was acquired during childhood. Numerous examples of the disease spreading from one member of the family to all the others are quoted. The only method of combating this disease is to remove the child from his home. CHRISTOPHER ROLLESTON.

Congenital tuberculosis in a child of six weeks (*'Jahrb. f. Kinderheilk.,'* 1913, LXXVII, *p.* 95).—**M. Zarfl** showed this case at the Vienna Gesellschaft f. inn. Med. u. Kinderheilk. The mother had pulmonary tuberculosis. Von Pirquet's reaction was definitely positive on the seventeenth day. The spleen was enlarged. Fever soon set in and increased in the following weeks. The child lost flesh, and the liver, spleen and inguinal glands increased in size. The lungs were normal. **Von Pirquet** agreed with the diagnosis of congenital tuberculosis, and said that this was the youngest case in which a positive tuberculin reaction had been observed.
J. D. ROLLESTON.

Primary tuberculosis of the lung in an infant aged 24 days (*'Jahrb. f. Kilderheilk.,'* 1913, LXXVII, *p.* 91).—**M. Zarfl.**—The mother died of tuberculosis soon after delivery. The child's death was due to bronchopneumonia following rhinitis. In addition to pneumonia the necropsy showed a caseous focus in the left upper lobe, which was histologically a caseous pneumonia and contained numerous tubercle bacilli. The regional glands were macroscopically normal. J. D. ROLLESTON.

Tuberculosis in the infant (*'Thèses de Paris,'* 1912–13, *No.* 3).—**Dora Mantoux.**—This thesis, inspired by Marfan, is based on the study of 168 cases, aged from 0 to 2 years, observed at the Hôpital des Enfants Malades. The writer's conclusions are as follows: Tuberculosis is frequent in infancy, its frequency increasing as the child grows older. During the first year both sexes are equally affected; during the second, boys are most frequently affected than girls in the proportion of five to two. In 45 per cent. one or both parents are tuberculous; the closer the family life the more likely the contagion. Illegitimate children are less frequently affected than legitimate. Two facts stand out in the history of infantile tuberculosis: (1) Tuberculosis of the bronchial glands is almost always the first important focus. A distribution of lesions suggesting infection by the intestines, or any other route is most exceptional. (2) A tendency to generalisation, which is more marked the younger the child. The writer discusses successively the respiratory, digestive, surgical and nervous manifestations, generalised tuberculosis and latent forms. In every form the lesions found post mortem are usually much more extensive than those indicated by clinical examination. A reaction of repair is very rarely seen. Mantoux's observations confirm those of Marfan to the effect that tuberculosis, like every chronic infection, may act on the bone-marrow and cartilages of ossification, and determine rickets, especially in the course of the second year. The diagnosis of infantile tuberculosis rests essentially on the reaction to tuberculin. Von Pirquet's test was exclusively used by the writer. The prognosis is very grave. During the first year death is the rule; chances of survival are better in the second year. External localisations are less grave than visceral. Treatment should be prophylactic. The value of specific treatment is far from proved. J. D. ROLLESTON.

The diffusion of tuberculosis among the school-children of Palermo (*'Gazz. internaz. di med. chir., etc.,'* 1913, *p.* 79).—**C. Mauro.**—

During the last two years the number of children attending the out-patient department of the Palermo Pædiatric Clinique who gave a positive cuti-reaction ranged from 17 per cent. during the first months of life to 83 per cent. between 6 and 12 years, *i. e.* at school age. The principal course of the diffusion of tuberculosis in Palermo is family contagion and the chief predisposing cause the bad hygienic condition of the homes. Bovine contagion can be excluded, for in the rare cases in which artificial feeding is used, goat's and not cow's milk is employed. Among 800 school-children the percentage of clinical forms of tuberculosis was as follows: pulmonary tuberculosis 48·05, tuberculosis of serous membranes 23·3, glandular tuberculosis 18·6, of uncertain location 8·4. Mauro recommends the establishment of open-air schools as in other parts of Italy and the continent.

J. D. Rolleston.

Initial localisation of tuberculosis of the lung in the child (*'Ann. de méd. et chir. inf.,'* 1912, xvi, *p.* 579).—**E. Rist** states that the most typical primary lesion is a small cavity, about the size of a cherry, in the right lower lobe, with a considerable collection of caseous glands. The apices are quite free of tubercle. Ordinary physical diagnosis will not show this, but X rays will do so with great precision. In later infancy the remains of this lesion are seen with thickening of the bronchial walls, bronchial dilatations, calcified glands, etc.

J. Porter Parkinson.

Some diagnostic points in infantile tuberculosis (*'La Pediatria,'* 1912, xx, *p.* 723).—**O. Cozzolino** considers that neither radioscopy nor local tuberculin reactions furnish decisive proofs in the differential diagnosis between a post-influenzal fever protracted for many months and a tracheo-bronchial tuberculosis. Schick's phenomenon, expiratory stridor, maintains its diagnostic value even in the co-existence of tracheo-bronchial adenopathy with clinically appreciable pulmonary tuberculosis. Glandular and pulmonary tuberculosis is not necessarily fatal during the first year of life. The prolonged daily use of large doses (70 to 100 gr.) of cod-liver oil does not necessarily give rise to exudative manifestations as Czerny has affirmed. The differential diagnosis between bronchiectasis and pulmonary tuberculosis in infancy rests more on clinical observation than on laboratory methods. Nevertheless one should not be too optimistic in excluding tuberculosis when laboratory methods fail or give indecisive results, nor, on the other hand, be too pessimistic in admitting such a diagnosis when clinical evidence seems in favour of it.

Vincent Dickinson.

Diagnostic value of von Pirquet's tuberculin test (*'Amer. Journ. Dis. Child.,'* 1912, iv, *p.* 27).—**F. L. Wachenheim,** while admitting that most authors are inclined to the opinion that von Pirquet's test is of limited value and important only from a negative standpoint, cites instances to show that this adverse opinion is far too sweeping, and states that a positive reaction should be regarded as an important danger-signal, as evidence that a tuberculous process is either still active or likely to become active, and is never to be carelessly dismissed as a mere relic of a gone and past infection.

J. E. Bullock.

A year's experience of von Pirquet's reaction (*'Osp. d. Bamb. d. Milan.,'* 1912, i, *p.* 69).—**C. Monti-Guarnieri** used this test in 121 children, aged from 4 months to 8 years, suffering from various diseases at the Milan

Children's Hospital. The results were as follows: (1) 76 negative cases—(*a*) 12 deaths, in 7 of which there was post-mortem evidence of tuberculosis and in 5 none; (*b*) 64 survivors, 14 of whom were very suspicious and 60 slightly so. (2) 17 slightly positive—(*a*) 3 deaths, in all of whom tuberculosis was found post mortem; (*b*) 14 survivors, 11 of whom were very suspicious and 3 slightly so. (3) 28 strongly positive cases, 24 of whom were very suspicious and 4 slightly so; there were no deaths in this class.

J. D. Rolleston.

Relationship between the infection in the child and clinical tuberculosis in the adult (*'Amer. Journ. Dis. Child.,'* 1912, iv, *p.* 13).—**F. M. Pottenger** agrees with those who regard active tuberculosis in the adult as usually the result of an infection in childhood. He states that at least 75 per cent. of all children are infected with tuberculosis before they reach their fifteenth year, of whom probably not more than 20 per cent. will develop later "clinical" tuberculosis, and not more than 10 to 15 per cent. will die of the disease. He pleads for the treatment of early latent tuberculosis, which is to be recognised by the von Pirquet test, and draws the analogy of the treatment of syphilis controlled by the Wassermann test. He does not, however, give any indications for the recognition of the time when the treatment may be stopped.

Reginald Miller.

The soil and the seed in tuberculosis (*'Brit. Med. Journ.,'* 1912, ii, *p.* 1434).—**Halliday Sutherland** cites investigations to show that tuberculosis occurs more among the children of consumptives than among the children of healthy parents; this may be due to their exposure to infection, to their lowered general health or to their heredity. Again tuberculosis occurs more among the children of infectious consumptives than among the children of non-infectious consumptives; this must be due to exposure to infection *plus* lowered general health, resulting from adverse circumstances in the home. Therefore it is not heredity which determines whether the children of consumptives will develop the disease, but the existence of certain immediate factors which are under our control. The difference in the susceptibility of the children of infectious tuberculous patients and of non-infectious tuberculous patients is the direct result of the stage of the disease in their parents; what has been termed for a century "soil" is really the result of the pathogenic action of the "seed."

J. E. Bullock.

The teeth in relation to pulmonary tuberculosis (*'Med. Press and Circ.,'* 1913, i, *p.* 33).—**G. Thomson** maintains that the prevention of dental caries will do more directly and indirectly towards the prevention of tuberculosis than any other measure that has yet been conceived. In elaborating this theme he discusses the development and care of healthy teeth, and the means (including the dietetic method) of preventing dental caries.

J. Allan.

Effects of cold air on blood-pressures of children and young adults in various stages of tuberculosis (*'Amer. Journ. Dis. Child.,'* 1912, iv, *p.* 307).—**B. Raymond Hoobler,** as the result of 150 blood-pressure observations, comes to the following conclusions: (1) Blood-pressure in tuberculous children is persistently low. (2) When a patient is transferred to the open air there is a gradual increase of blood-pressure in one or two hours. (3) If a patient is kept constantly in the open air the

pressure is raised to well within the normal limits and kept there as long as he remains in the open air. (4) The more advanced the case the lower the pressure indoors, and the higher the rise in the open air. (5) After several days in the open air the blood-pressure does not fall so much when the patient returns to the ward as it did previously.

J. D. Rolleston.

Generalised emphysema in tuberculous meningitis (*'Inaugural Dissertation, Berlin,'* 1912).—**F. Klose.**—A girl, aged 4½ years, developed cutaneous emphysema of the thorax on the fifteenth day of disease. Death, preceded by convulsions, took place four days later, the emphysema having meanwhile become generalised. No rupture of a tuberculous cavity in the lungs was found. The cause of the emphysema was probably an abnormal cerebral pressure which led to a convulsive seizure, during which rupture of the pulmonary alveoli occurred and gave rise to the emphysema.

J. D. Rolleston.

Tuberculosis and asthma (*'Arch. de méd. des enf.,'* 1913, xvi, *p.* 96).—**A. Rongel** examined 101 asthmatic children and found von Pirquet's reaction positive in fifty, negative in forty-nine, and doubtful in two. He therefore rejects the view held by some that there is an antagonism between asthma and tuberculosis. J. D. Rolleston.

The bacteriology of the respiratory diseases in children (*'Jahrb. f. Kinderheilk.,'* 1912, lxxvi, *p.* 417).—**G. Brückner, W. Gaehtgens** and **H. Vogt** draw attention to the importance of the influenza bacillus in the pathology of respiratory diseases in childhood. It is rarely a harmless saprophyte in the air-passages, and the diseases to which it gives rise have up to a certain stage a special clinical course, manifested by malignancy, tendency to relapses and termination in chronic processes. It has not been decided at present whether the various bacteria present in the sputum in a mixed infection have collectively a pathogenetic influence.

F. R. B. Atkinson.

Diphtheria bacilli in the lungs (*'Münch. med. Woch.,'* 1912, lix, *p.* 2383).—**E. Reye** examined the lungs post mortem in 67 cases of diphtheria and found diphtheria bacilli present in 56. The cultures were usually taken from both lower lobes, and if broncho-pneumonic areas were present, these were cultivated. In 38 of the 56 cases membrane was still present in the throat at the time of death, and in eighteen who had died between the ninth and twentieth days the throat was clean. In 6 cases the bacilli were in pure culture, in 27 they were associated with *Streptococcus erysipelatosus*, and in 23 with other bacteria, especially *pneumococcus*, *pneumobacillus* and *Staphylococcus pyogenes aureus*. Of the 11 negative cases 2 were sterile, 4 showed *Streptococcus pyogenes*, and 5 other bacteria. Broncho-pneumonia was found in 29 cases, or 43 per cent. of the 67 cases. In the 56 positive cases there were 27 cases of broncho-pneumonia or 48 per cent. Reye concludes that up to the twentieth day of disease diphtheria bacilli may be still present in anatomically healthy lungs, though the diphtheritic process in the throat and upper air-passages has long since subsided. Convalescents, therefore, whose throat is free of diphtheria bacilli may still be infectious by their breath. J. D. Rolleston.

Diagnosis of enlarged bronchial glands (*'Amer. Journ. Dis. Child.,'* 1912, iv, *p.* 333).—**H. F. Stoll** states that a moderate enlargement of the bronchial glands often gives sufficiently distinct physical signs to render their diagnosis possible by clinical methods alone. The signs are usually most marked in the interscapular space. Ebstein's method of touch percussion will elicit bronchial node dulness that is imperceptible when more force is used. Whispered bronchophony in the interscapular space is the earliest and most valuable sign of swollen bronchial glands. While the spasmodic brassy cough is quite typical of bronchial node tumour, the diagnosis must sometimes be made without it. Continual fatigue, associated with anorexia, afternoon pyrexia and possibly a slight loss of weight should suggest the possibility of tuberculosis. J. D. Rolleston.

Pneumonia in children (*'New York Med. Journ.,'* 1912, ii, *p.* 468).—**H. Lowenburg.**—The most important points in this paper are the following: (1) There is a form of pneumonia in which fever and its concomitants are the only symptoms throughout the illness. There are no physical signs in the lungs at any time. The symptoms are due, perhaps, to a pneumococcæmia. (2) Percussion should be extremely light and the axillæ should always be examined. (3) Normally the inspiratory sound on auscultation on the left side, especially posteriorly, is harsher and louder than on the right. (4) Acute otitis media is frequently confused with pneumonia; the ear-drums should always be examined in every acute attack of high temperature. (5) When the tubes are becoming choked up the treatment recommended is as follows: ʒss to ʒij of castor oil within one to one and a half hours; vin. ipecac. ♏ xxx, vin. antim ♏ xv every three hours till enuresis is produced, but not more than three doses are to be given; tinct. bellad. ♏v every four hours, gradually increased to ♏ xv or xx, and sp. ammon. aromat. ♏v–x; every other hour inhalations of oil of eucalyptus ʒiv, beechwood creasote ʒiv, oil of turpentine ad. ʒiv. One to two table-spoonfuls in a quart of water kept boiling. F. R. B. Atkinson.

Prolonged pneumonias in the infant (*'Clin. Infant.,'* 1912, x, *p.* 566).—**Jacquard.**—Pneumonias are called prolonged when the fever persists without any complication being recognised. The author found 12 cases in 200 pneumonias. He classifies them as follows: (1) Wandering pneumonia, when one focus clears up and another appears. (2) Double successive pneumonia is pneumonia coming on in the sound lung when the other has not yet cleared. (3) Relapsing pneumonia, when a pneumonia succeeds a previous attack at an interval of not more than three or four days. (4) Pneumonia with a single focus with prolonged course: (*a*) a typhoid variety, in which the signs of pneumonia do not appear for some days; (*b*) a simple prolonged variety with normal symptoms but prolonged duration. J. Porter Parkinson.

Herpes in pneumonia (*'Lyon méd.,'* 1912, cxviii, *p.* 630).—**E. Weill** and **A. Dufourt** record the following two cases in which pneumococci were found in the hepatic vesicles: (1) Girl, aged 10 years. Herpes of lips, nose, right side of tongue, inner side of right cheek, right tonsil, and posterior wall of pharynx. No clinical signs of pneumonia, but consolidation of right apex shown by X rays. Defervescence on third day. Pneumococci were found in pure culture in the lip vesicles, and associated with other organisms in the vesicles on the tonsil. (2) Girl, aged 12 years,

suffering from pneumonia. Ten vesicles were present in the middle of the lower lip literally swarming with pneumococci.

J. D. Rolleston.

Meta-pneumonic pleurisy of children (*'Progrès méd.,'* 1912, xl, *p.* 341).—**G. Mouriquand** reports a case and draws attention to the importance of cyto-bacteriological examination of the serum. If the effusion is anaërobic and if the polynuclears are not changed, the case is one of ordinary para-pneumonic type and ends favourably. If, however, as in the case reported, the liquid, although clear and straw-coloured, contains altered polynuclears and numerous pneumococci, purulent change will ensue. The successive stages of its development are well seen in the repeated tapping in this case. The author considers *axillary dulness* a most important and trustworthy sign in the diagnosis of this condition. In percussing a case of basal pneumonia, however intense, it is exceptional for the dulness to extend towards the axilla and especially to reach the anterior aspect of the thorax. Only very extensive pneumonias, which are rare in children, give these physical signs. On the other hand, when even the smallest effusion takes place, the axillary resonance becomes less clear and then disappears to give place to complete dulness. In every case where the author has found axillary dulness exploratory puncture has revealed effusion, and he cites an interesting case of a youth, aged 17 years, thought to be tubercular, and in whom evacuation of an empyema caused complete recovery.

Vincent Dickinson.

Pneumonia and purulent pleurisy in an infant: recovery (*'Semana Medica,'* 1912, xix, *p.* 645).—**Zubizarreta** had an infant, aged 28 days, under his care in whom the pneumonic signs were strictly localised. At the right base there was some loss of resonance, the breathing blowing and bronchophony. The rest of the lung and the left lung were quite free. This, with the general symptoms, sufficed for the diagnosis of pneumonia. The following day there was increased dyspnœa and cough, whilst no crepitant *râles* could be now heard, and the dulness soon involved the whole of the right side. Pleural puncture gave exit to pus which showed pneumococci. The child was operated on two hours later, with complete recovery. The writer draws attention to the need of early diagnosis; "every case of pulmonary dulness in a child under one year should be punctured." Beyond withdrawing the pus treatment consisted in keeping the room at a high temperature—28° C.—constant administration of oxygen, and rectal injections of adrenalin.

M. D. Eder.

Emphysema of the pleura, mediastinum and skin in an infant (*'Gazz. med. ital.,'* 1912, lxiii, *p.* 386).—**V. Gielczynski** describes this case in a breast-fed rickety infant, aged 6 months, suffering from broncho-pneumonia. The lungs were resonant, with diffuse bronchial breathing at the left base and abundant rhonchi everywhere. The temperature continued to rise, the sputum became muco-purulent and the breathing more markedly bronchial. On the tenth day a soft swelling of the skin was noticed on the neck and upper part of the thorax on the right side. The cardiac area was tympanic and the heart-sounds muffled. On the following day cyanosis, rapid shallow breathing (68 per minute), irregular feeble pulse (100) were present; the cutaneous swelling extended to the left thorax, shoulders and neck. The child died the following day, and the autopsy showed numerous

bubbles of air in the right lung and the anterior mediastinum, broncho-pneumonia of both lower lobes and right upper lobe. The pleura was healthy, there were right pneumothorax, dilatation of the heart and parenchymatous degeneration of the kidneys. As regards the ætiology of this case, inflammatory processes in the pulmonary tissue and narrowing of the air-passages lead to dyspnœa; air introduced with greater frequency into the healthy alveoli leads to their vicarious distension. Displacement of the bronchioles and closure of the epiglottis during paroxysms of cough cause rupture of the pulmonary vesicles. Prognosis depends on the causal condition; if the subcutaneous emphysema lasts more than four days the prognosis is on the whole favourable, otherwise the issue is fatal. Treatment is inefficacious: some recommend massage, others puncture, but the latter may easily lead to infection. Complete rest and measures which calm the cough succeed best.

VINCENT DICKINSON.

Paratyphoid bacillus B in a pleural effusion (*'Nederland. Tijdschr. v. Geneesk.,'* 1913, I, *p.* 91).—**E. S. Frank.**—A child, aged 2 years, had an attack of pneumonia followed by pleurisy. A slightly turbid fluid was withdrawn and yielded a culture of the paratyphoid bacillus B which was agglutinated by the patient's blood-serum in a dilution of 1 in 1600. The organism could not be grown from the blood, the urine or the fæces. Frank thinks that the child had probably had a latent attack of paratyphoid fever, and that the bacilli had been awakened into activity by the attack of pneumonia.

J. D. ROLLESTON.

Daily weighing in the pleurisy of children (*'Thèses de Lyon,'* 1911–12, *No.* 2).—**L. V. Simon** records three cases in girls, aged 4, 7 and 10 years respectively, to prove that daily weighing of the patient enables one to estimate accurately the progress of a pleural effusion. The results were controlled by stethoscopic examination and radioscopy, increase in the child's weight corresponding to an increase in the effusion and *vice versâ*.

J. D. ROLLESTON.

Artificial pneumothorax in children (*'Monatsschr. f. Kinderheilk.,'* 1912, XI, *p.* 143).—**F. Pielstieker** and **H. Vogt** report ten cases, in eight of which collapse of the lung resulted; in the other two owing to pleural adhesions this did not take place. In all the cases only one lung was diseased. The authors believe as a result of their experience that the operation is of value, but the numbers are so few that no dogmatic conclusions can be drawn from them.

F. R. B. ATKINSON.

Pyopneumothorax with succussion splash (*'Ann. de Méd. et Chir. inf.,'* 1912, XVI, *p.* 705).—**Renault** and **Lévy** refer to a case published by Variot and Morancé where the signs of pyopneumothorax were almost confined to succussion splash, and report a similar one in a boy, aged 6 years, who in January and February had a severe febrile illness of unknown cause. In March he began to cough and expectorated large amounts of thick yellowish-green pus. This lasted a month with much wasting and loss of flesh. In May he was admitted to the hospital, when signs of pleural effusion were discovered in the left chest by ordinary methods and by the radiographic screen. Ordinary Hippocratic succussion was absent. Then the succussion splash (*bruit de glouglou*) was tried for. The child was put on all fours, the ear applied to the scapular region of the chest on the

affected side, and on raising the child rapidly by the arm placed round its thorax this splash was readily heard. The chest was then opened and drained in the ordinary way. The writers consider the sign they describe of great value in the diagnosis. J. Porter Parkinson.

Empyema in infants (*'Monatsschr. f. Kinderheilk.,'* 1912, xi, *p.* 93.—**F. Zybell** has met with twenty-two cases of this condition in the last year and a half in children up to one year three and a half months. Fifteen of the cases died as a result of pneumonia. F. R. B. Atkinson.

Streptococcus empyema complicated by erysipelas (*'Am. Journ. Obst.,'* 1912, lxvi, *p.* 886).—**A. Hymanson.**—Three days after thoracotomy for streptococcus empyema, a child aged 6 months developed erysipelas round the wound. Some improvement followed injections of polyvalent streptococcus serum followed by injection of horse-serum into the pleural cavity. Complete recovery, however, did not take place till five months after the onset owing to six attacks of broncho-pneumonia and gastro-intestinal disturbance. J. D. Rolleston.

Vomicæ in children (*'Ann. de Méd. et Chir. inf.,'* 1913, xvii, *p.* 33).—**Maillet** and **Anne** describe two cases in children, aged 8 years and $2\frac{1}{2}$ years respectively, suffering from expectoration of purulent matter with the signs of a cavity; the first case was due to a purulent pleurisy of the base, and the second followed an interlobar pleurisy after measles.
F. R. B. Atkinson.

Syphilis of the nervous system in infancy, childhood, and adult early life (*'Clin. Journ.,'* 1912, xli, *pp.* 17, 42, 57, 75).—**Sydney Owen,** in an interesting series of articles, reviews the subject of syphilis of the nervous system in children and young adults. His conclusions are briefly as follows: (1) Syphilis of the nervous system in young subjects is more common than supposed. (2) In a small proportion of cases the disease is acquired. (3) In acquired syphilis nervous symptoms may appear soon after infection; in inherited syphilis they may appear at any time up to puberty, and at the latter period parasyphilis may appear. (4) If it is admitted that a positive Wassermann reaction (with well-defined exceptions) is evidence of past or present syphilis, this reaction is valuable evidence of syphilis. (5) Chemical and cytological examination of the cerebro-spinal fluid will often differentiate syphilis of the nervous system which is amenable to treatment from parasyphilis. "When syphilis appears to produce a primary neuronic decay or dystrophic condition in the nerve structures, apart from any pronounced meningeal changes, we must not expect to find changes in the cerebro-spinal fluid usually associated with syphilis and parasyphilis of the nervous system." (6) Syphilis is apparently responsible for more mental defect than is usually stated. (7) Syphilis is the cause of most cases of interstitial keratitis, but the only cause of hyalitis in infants—a rare but well-recognised form of amaurosis in infancy. (8) During the first few months syphilis is a common cause of meningitis and hydrocephalus. Lumbar puncture and a Wassermann reaction assist the diagnosis. (9) Syphilis may cause a few cases of diplegia, especially of the ante-natal type. (10) Syphilitic epilepsy is infrequent. The author thinks that convulsions are more common in syphilitic than in healthy infants, that in older children syphilis may be the only cause of fits of the "idiopathic type." (11) While

myelitis is common in adults with acquired syphilis, spinal lesions, apart from tabes, appear to be rare in inherited syphilis. (12) Parasyphilis in inherited syphilis resembles that of the acquired disease. (13) The morbid anatomy of inherited and acquired syphilis of the nervous system appears to be identical. (14) Prognosis is grave and early diagnosis is essential. The Wassermann reaction and examination of the cerebro-spinal fluid are efficient aids in diagnosis. (15) As regards the question of the transmission of syphilis, the author thinks that in the majority of cases the infant is infected by the placenta from the mother, who is or has been syphilitic, and that in mild infections or when the virus has been attenuated by time the placenta appears to act as a barrier to the passage of the spirochæte or its toxin. There is one statement by the author to which exception may be taken—that the course of acquired syphilis in the infant differs in no way from the inherited type. C. F. Marshall.

Treatment.

Treatment of empyema with intra-pleural injections of collargol (*'Osp. dei Bamb. di Milan.,'* 1912, I, *p.* 37).—**G. B. Grassi** records ten cases in children aged from 14 months to 8 years, in which successful results were obtained by intra-pleural injections of collargol. The amount injected was equal to the quantity of fluid withdrawn. J. D. Rolleston.

A practical method of prophylactic immunisation against tuberculosis (*'Med. Record,'* 1912, II, *p.* 369).—**K. von Ruck** has endeavoured to immunise 339 children by the following method: The vaccine used contained per c.c. 10 mgrm. of proteins of tubercle bacilli and a small amount of their fatty extractives, proportioned as follows: Protein No. 1, 0·25 mgrm.; No. 2, 2·75 mgrm.; No. 3, 1 mgrm.; No. 4, 6 mgrm.; fatty extractives, 0·01 mgrm. A dose of 0·1 c.c. of a 10 per cent. dilution caused the development of the several antibodies and an increase of the blood alkalinity after a single dose. Doses up to 0·6 c.c. were given to children between ten and eighteen years of age. Of the 339 children 85 were normal, 94 suspects and 160 tuberculous. Improvement was shown in the two latter classes by gain in weight, disappearance of enlarged lymph-glands and improvement in their general appearance. The physical signs had in many cases entirely disappeared. The author found that after a single dose of the preparation the induced immunity was still evident in every case re-examined three to eight months afterwards. The dose need not be repeated more than once in five days or a week, and after three or four doses of 0·05, 0·1, 0·2 and 0·4 c.c. given a week apart, an ample degree of immunity can be shown by complement fixation and by the lytic action of the patient's serum upon tubercle bacilli *in vitro*.
F. R. B. Atkinson.

Adrenalin in whooping-cough (*'Brit. Med. Journ.,'* 1912, II, *p.* 1748).—**G. V. Fletcher** recommends adrenalin solution 1 in 1000 by mouth in whooping-cough in doses of one to three minims every three or four hours according to the age of the patient and the severity of the attack. The duration of the attack is materially shortened. The adrenalin also checks the vomiting very quickly. J. Allan.

Phenocoll hydrochloride in whooping-cough (*'La med. de los niños,'* 1911, XII, *p.* 360).—**Maleras,** on the basis of a recent epidemic, strongly recommends the drug first advised by Professor Vargas in this disease. In fifteen days he thus treated thirty-seven cases (children and adults), with 70 per cent. of cures in that time and with much relief to the other cases.

M. D. EDER.

Iodine in whooping-cough (*'La Pediatria,'* 1912, XX, *p.* 128).—**A. Cavazzani** uses a preparation which he claims to be stable and not prone to evaporation, and to have a taste which is easily masked. It is thus constituted: Metallic iodine, grm. j, potassium iodide and distilled water, of each, grm. xv. It is given in drops mixed with sweetened milk or coffee in doses of 4–6 drops *per diem* during the first year of life, of 6–10 drops from the second to the fifth year, and from 10–15 drops above this age.

VINCENT DICKINSON.

Vaccines in the treatment of pertussis (*'Arch. of Pediat.,'* 1912, XXIX, *p.* 581).—**M. Ladd** used a vaccine prepared from Bordet's bacillus in nine cases of whooping-cough. The doses ranged from five to forty million bacteria. A minimum of five days was allowed to elapse between the injections. No ill effects were noted, and after three injections the number and severity of the paroxysms usually diminished. All recovered without complications in about five weeks after beginning treatment. J. D. ROLLESTON.

Bacterin treatment of pertussis (*'Interstate Med. Journ.,'* 1912, XIX, *p.* 844).—**J. Zahorsky,** who had previously recorded favourable results from his treatment in institution work (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, x, p. 331), now publishes 40 cases in which he had used it in private practice. The ages of the patients ranged from 1 month to 11 years. In his first cases he used 10 million bacteria and later 20 million. The most marked effects were obtained when 30–50 millions were given. Injections were given every three or four days from the beginning of the disease in infants, and in older children at the height of the disease. In about a quarter of the cases no effect was observed from the treatment. In case where pertussis was complicated by bronchitis or broncho-pneumonia the effect was uncertain, or even harm might result. It was questionable whether the treatment hastened permanent immunity.

J. D. ROLLESTON.

Vaccine therapy of whooping-cough (*'Am. Journ. Dis. Child.,'* 1913, V, *p.* 33).—**A. Bamberger** used a vaccine prepared from deep swabbings of the throat of children with pertussis, each c.c. containing 20 million dead organisms. The cultures were plated and replated until a pure culture was obtained. Six children were treated aged from one to four years. A dose of 20 millions was given every other day, no case receiving less than five injections or more than fifteen. The treatment seemed rather to lessen the severity of the disease and to abort its complications than to shorten its duration. No ill-effects such as fever rashes or joint pains were observed.

J. D. ROLLESTON.

Value of pertussis vaccine (*'New York Med. Journ.,'* 1913, I, *p.* 176). **G. D. Scott** treated 17 cases aged from 5 months to 8 years who were for the most part poor, ill-nourished and badly developed. He first gave doses

of 10 million to infants and 20 million to children twice a week, but afterwards gave 40 million even to infants, and another dose in proportion to the effect obtained. No bad results whatever resulted from the treatment. All were cured except three, in whom there was, however, distinct improvement.

J. D. Rolleston.

Treatment of typhoid fever in the child (*'L'Écho Méd. du Nord,'* 1912, xvi, *p.* 393).—**Deléarde.**—Though the prognosis of typhoid fever in the child is better than in the adult, and the complications less numerous, nevertheless great care is necessary. The temperature is rarely high, and quinine and other drugs do not modify the fever. Milk, soups of meat or vegetables, etc., form the chief elements of diet. Constipation is very frequent in children, and abdominal distension may occur, causing dyspnœa, frequency of the pulse, etc., and for this castor oil, magnesia or senna may be given. For diarrhœa benzonaphthol with bicarbonate of soda may be given, or salol and borax. Cold baths are not well borne, but tepid water may be used if necessary. In children over six years an ice-bag to the præcordium will slow the pulse-rate if this is too rapid. If there be pulmonary or cardiac complications sinapisms to the thorax are useful, and to sustain the heart injections of oil of camphor or sulphate of sparteine with strychnine, or adrenalin are indicated; caffeine may cause vomiting and so is undesirable. To prevent emaciation, eggs and starchy foods may be given on the third or fourth day after the temperature has became normal. Alcohol is only necessary when signs of loss of strength are very marked, and then only in small doses. Champagne is useful, or sherry or port wine. The usual precautions of disinfecting the stools, urine and linen should be thoroughly carried out.

J. Porter Parkinson.

Treatment of tetanus with magnesium sulphate, with report of three cases (*'Journ. Amer. Med. Assoc.,'* 1912, lviii, *p.* 1746).—**G. Parker** describes three cases, in a boy aged 11 years, girl aged 20 months, and woman aged 44 years, all of whom were treated successfully by this method, given subcutaneously in doses of 8 drm., 4 drm. and 10 drm. respectively of a 25 per cent. solution.

F. R. B. Atkinson.

Tetanus and magnesium sulphate (*'Thèses de Paris,'* 1912–13, *No.* 28).—**J. M. H. Petit** recommends the use of magnesium sulphate in tetanus in addition to serum therapy. The action of the drug is a production of muscular relaxation and abolition of the spasms. Four c.c. of a 25 per cent. solution should be injected intra-spinally every twenty-four hours. Thirteen of the forty-five cases collected by Petit occurred in children aged from 4 to 15 years, nine of whom recovered and four died (*vide* British Journal of Children's Diseases, 1911, viii, pp. 188–9).

J. D. Rolleston.

Treatment of epidemic cerebro-spinal meningitis by intra-ventricular injections of serum (*'Arch. f. Kinderheilk.,'* 1912, lix, *p.* 72).—**E. Levy** alludes to Fischer's case (*vide* British Journal of Children's Diseases, 1910, vii, p. 428), and records a personal one in a child of 3½ months suffering from severe meningitis with left hemiplegia. Lumbar puncture showed a turbid fluid containing meningococci. As all subsequent lumbar punctures were dry, the left lateral ventricle was punctured by a needle introduced at the left angle of the anterior fontanelle; 10 c.c. of turbid fluid were withdrawn and 8 c.c. of serum injected. Rapid improvement

followed, and the child was discharged apparently cured four weeks after the infection. A month later deafness and paralysis of the anterior deep cervical muscles were found as sequelæ of the meningitis. J. D. Rolleston.

The diuretic action of infusion of lily of the valley in children (*'Progrès méd.,'* 1912, xl, *p.* 499).—**G. Mouriquand** and **G. Dujol.**—In heart disease the result of its administration was uniformly favourable; a sharp diuretic action ensued the next day. After two or three days this action declined, thus rendering the drug a complementary agent to others which have a more prolonged action. In the subacute nephritis following scarlatina, its action is unappreciable and much inferior to theobromine. In œdematous infants, without albuminuria, the infusion given in the bottle caused a copious flow of urine the following day, which was maintained for two or three days. The œdema rapidly disappeared. In an infant, taken as a control, suffering from pneumonia, the action of the drug was *nil*. With regard to the comparative diuretic action of different preparations of the plant, the authors found that watery extract of the whole plant, given in doses of 1·50 grm. for six days, produced no effect: the same could be said of the powdered plant. Infusions of the entire plant had a definite diuretic effect in some cases. The most marked and rapid effect was, however, obtained by infusion of the *flowers*. Three or four grammes of the flowers are infused for ten minutes in 150–200 grm. of boiling water. The infusion is filtered, and, if strongly sweetened, has a pleasant taste. It is advisable sometimes to associate it with digitalis, which has a slow but less ephemeral action. Vincent Dickinson.

The administration of digitalin and theobromine to children (*'Gazz. Med. Ital.,'* 1912, lxiii, *p.* 159).—**Nobécourt** asserts that these drugs can be prescribed without fear for children. He uses a solution of crystallised digitalin 1 in 1000, one drop of which corresponds to $\frac{1}{50}$ mgrm. He generally orders one drop *per diem* for five days. If no effect is produced after this time it is better not to continue its administration, although it may be continued without harm for two or three days longer. A child will take the drug readily mixed with water or sweetened milk. The daily dose is given at one time in the morning. The age of the child matters little since digitalin is not a drug to be administered according to age. The indications for its use are cardiopathies and nephritis, especially if accompanied by dyspnœa, cyanosis, tachycardia, œdema, large liver and oliguria. In favourable cases improvement ensues after four to six drops. In nephritis the effect is much less evident. Theobromine may be given in cachets if the child is old enough, otherwise mixed with sugar or honey. Children tolerate the drug well; 40–60 cgrm. *per diem* is sufficient. In nephritis it is most efficient, and helps in producing a diuretic crisis in acute œdematous forms.

Vincent Dickinson.

The treatment of hereditary syphilis by "606" (*'Lyon Méd.,'* 1912, cxix, *p.* 716).—**Fabre** and **Bourret** adopt two methods of treatment: (1) injection of the pregnant syphilitic woman, and (2) injection of the syphilitic infant. They report six cases of the former. They hold that prophylactic intra-venous injection of salvarsan in a woman without definite symptoms is very rarely indicated. In these cases the classic treatment by mercury and iodide is usually efficacious, and exposes the patient to less serious consequences than sometimes follow intra-venous injections of

salvarsan. It is only in exceptional cases, such as inefficiency of mercurial treatment in a previous pregnancy, that injections of salvarsan are to be recommended. In such cases the authors use weak doses, 0·25 to 0·30, because it is not the mother but the ovum that is to be treated. The injection is repeated every three months during pregnancy. In cases where the mother contracts syphilis during pregnancy it is reasonable to hope that the maternal infection may be destroyed before the ovum becomes seriously infected. Hence a single injection of "606" is indicated. The appearance of secondary symptoms in a pregnant woman indicates that the maternal affection is of recent date and in full evolution, and capable of killing the fœtus. In these cases also rapid and energetic treatment with "606" is indicated. Eighteen newborn infants were injected. The authors discard intra-muscular injections as being painful and uncertain, and give details for the intra-venous injection of arsenobenzol Billon and of neo-salvarsan. The chief indication for their use is without doubt syphilitic pemphigus, no other treatment being capable of causing such a rapid disappearance of the lesions, and of snatching, in the majority of cases, the newborn infant from an early death. Mucous tubercles and chronic coryza may certainly be cured by mercury and iodides, but in such cases the rapidity of "606" is remarkable. The action of the drug in improving the general health is less certain, so that in the presence of an hereditary syphilis without actual symptoms, but where the general condition is unsatisfactory, the authors consider it wise to commence treatment by mercury and iodides; if these produce no result, injection of "606" can be resorted to. In all cases, however remarkable the efficacy of "606" on the lesions, it should be remembered that it has a very transient action on the evolution of syphilis. Also, when once the acute manifestations are cured by the salvarsan, it is necessary, in order to avoid relapse, to act on the general health either by mercurial and iodide treatment, or more rarely in the infant, by repetition of the injections.

VINCENT DICKINSON.

The treatment of interstitial keratitis by salvarsan (*'Med. Record,'* 1912, II, *p.* 760).—**G. W. Vandegrift** finds no remedy is so good for this condition as salvarsan. It acts more quickly and efficaciously than mercury, and if used when the least trace of acute symptoms is present, it not only checks the inflammation, but absorbs the infiltrate.

F. R. B. ATKINSON.

Treatment of scarlet fever with salvarsan (*'Deut. med. Woch.,'* 1912, XXXVIII, *p.* 921).—**F. Klemperer** and **H. Woita** treated sixty cases of scarlet fever—twenty-one mild and thirty-nine severe—with intra-venous injections of salvarsan. The dose was 0·1 to 0·3 grm. in children and 0·6 grm. in adults. Five died—a mortality of 8·3 per cent.—as compared with a mortality of 24·5 per cent. among forty-nine cases not so treated. After injection in every case there was a rapid fall of the temperature followed by a moderate rise the next day, and then by lysis. As this antipyretic effect did not occur after salvarsan injections in cases of pneumonia, sepsis, articular rheumatism, tuberculosis, etc., salvarsan appeared to have a specific action in scarlet fever. Wassermann's reaction, which others found to remain positive four to five weeks in scarlet fever, after salvarsan treatment became negative on the eleventh day at the latest.

J. D. ROLLESTON.

Noma treated with salvarsan (*'Arch. of Ped.,'* 1912, xxviii, *p.* 912). —**M. Nicoll, jun.**, defines noma as a rapidly spreading gangrenous process beginning usually in the mucous membrane of the cheek and jaws, and involving all the surrounding tissues, showing little tendency to self-limitation, and from which fusiform bacilli and spirochætæ can be obtained in great numbers from the smears. At the scarlet fever hospital at the New York Department of Health, during the spring and summer of 1911, there have been eleven cases with nine deaths. Four of the cases had had an attack of measles during convalescence from scarlet fever. One recovered after separation of a sequestrum, and the other after treatment with salvarsan. The latter was a boy, aged 5 years, who developed noma a month after the onset of a severe attack of scarlet fever. Rapid recovery followed two intra-venous injections of 0·3 grm. salvarsan. Twelve hours after each injection there was increased swelling and redness in the inflamed cheek.

J. D. Rolleston.

Treatment of ulcerative angina and noma by salvarsan (*'Bull. et mém. Soc. méd. Hôp. de Paris,'* 1912, xxxiv, *p.* 91).—**Netter.**—Salvarsan was used in sixteen cases of severe scarlet fever at the Hôpital Trousseau in Paris, usually in local applications of 1 in 10 or 1 in 20 glycerine solutions, and sometimes in intra-venous injections. The action of the drug was prompt and marked. There were seven recoveries among twelve very grave cases. In one fatal case the bucco-pharyngeal lesions were healed, and death was due to gangrene of the lung.

J. D. Rolleston.

Salvarsan in affections due to spirilla (*'Thèses de Paris,'* 1911–1912, *No.* 257).—**J. A. M. Roger** records a case in a boy, aged 6 years, of Vincent's stomatitis, in which ordinary methods of treatment failed, but rapid cure resulted from local applications of 1·5 neutral solution of salvarsan. Two cases of Vincent's angina in adults, successfully treated with insufflations of salvarsan powder, are also described.

J. D. Rolleston.

Remarkable improvement of severe chorea treated by rectal injections of salvarsan (*'Ann. de Méd. et Chir. inf.,'* 1912, xvi, *p.* 720).—**Weill, Mouriquand** and **Goyet** relate the case of a girl, aged 13 years, who, since the beginning of 1911, had suffered from chorea which continued till August and reappeared in March, 1912. She was treated with arsenical butter, antipyrin, and oxygen inhalations, but the chorea steadily got worse and she lost appetite and weight. On May 29 she was given by rectum 0·05 grm. of salvarsan, diluted with 100 grm. of normal saline with 5 drops of laudanum, and on June 7, 0·10 gr.; both these injections were retained an hour only. On June 14 she showed slight improvement, which progressed rapidly, and she gained flesh and spirits. The cure was not complete, but there was a very marked improvement, which the writers attribute to the treatment.

J. Porter Parkinson.

Rectal administration of the salicylates in the influenza of infancy (*'Med. Record,'* 1912, ii, *p.* 199).—**G. W. Beatty** states that 60 per cent. of patients taking salicylate show salicylism. He regards the following as symptoms of that condition: deafness, tinnitus, headache (sometimes delirium), nausea, vomiting, a slow pulse, flushed face, epistaxis,

hæmaturia with or without albuminuria, erythema and urticaria. He recommends for the influenza of infants the use of suppositories of oil of theobroma containing quinine and methylene-citryl-salicylic acid (nov-aspirin). REGINALD MILLER.

Treatment of ulcerative impetigo (*'La Clin. Inf.,'* 1912, x, *p.* 351). —**G. Variot** has obtained excellent results in the treatment of certain forms of *impetigo rodens* by painting them twice daily with a solution of 1 per cent. methylene-blue. The extension of more or less deep erosions was arrested immediately by these compresses, and healing took place rapidly. In a few days complete cure was obtained in circumscribed forms. In severe and extensive forms cure was rather slower. It is sufficient to cover the parts painted with methylene-blue with compresses of sterilised gauze. VINCENT DICKINSON.

Tincture of iodine in regeneration of the epidermis (*'Gaz. méd. d. Sci. méd. de Bordeaux,'* 1912, xxxiii, *p.* 502).—**Petit de la Villéon** warmly recommends the pure tincture of iodine of the French codex in the treatment of extensive skin wounds in children, especially in burns. Applications should be made daily with a brush, and be followed by the application of sterilised gauze and wool. J. D. ROLLESTON.

Reviews.

BAKTERIOLOGISKE STUDIER OVER BARNETUBERKULOSE, KRISTIANIA, 1912. By A. DE BESCHE. Pp. 256, 4 plates.

THIS is an elaborate research on tuberculosis in childhood, based on 134 autopsies made in the Christiania Pathological Institute under the direction of Professor Francis Harbitz, the well-known authority on tuberculosis. In a long series of cases the author describes his bacteriological results, and compares them with those obtained in other countries based on a very complete study of the literature up to date. One important point rightly emphasised by the author is that the cases were unselected. The actual cases examined were as follows:

Age.	Total number of cases.	Tuberculous cases.
0–1 years	58	14 = 24·2 per cent.
1–3 ,,	28	11 = 39·3 ,,
3–5 ,,	14	7 = 50 ,,
5–15 ,,	34	20 = 58·8 ,,
	134	52 = 38·8 ,,

In each of the 52 tuberculous cases material was taken from the cervical and the mesenteric glands and injected into guinea-pigs with a positive result. Twenty-eight of the cases had died of tuberculosis, 14 had latent tuberculosis and 10 had "latent tubercle bacilli." In 50 of the cases the tubercle bacilli were isolated and studied, with the result that 45 were found to conform to

the *typus humanus* and 3 to the *typus bovinus*. In one case there appeared to be a mixture of the two types, and in one case it was very difficult to determine the type. Among the cases in which the *typus humanus* was found, there were five where the portal of invasion was primary in the abdomen and four or five in which the primary seat were the cervical glands. One of the bovine cases was probably primary in the abdomen, whereas in the other bovine cases the primary portal of invasion could not be determined with certainty. The author was unable to satisfy himself that the course of the bovine infection was milder than the human. The great majority of cases of tuberculosis in children are, according to his results, human in origin, although, he considers that prevention should be directed both to the human as well as bovine infective material. W. Bulloch.

Die Exsudativ-lymphatische Diathese. By Dr. Paul Sittler. Würzburg: Curt Kabitzch, 1913. Price M. 3.50.

To read this book is to realise how great is the gulf which separates English from German medicine at the present day. This conception of an exudative diathesis has taken a firm hold upon German thought, and the literature upon the subject has already swollen to enormous size. In England, on the other hand, with the exception of a short paper contributed by a German visitor to the meeting of the British Medical Association at Birmingham in 1911, the matter has hardly been discussed at all. Put in as few words as possible, the conception of this diathesis is that of a congenital inherited abnormality of constitution which renders the infant unduly susceptible to certain dietetic disorders, and which in later childhood manifests itself in a great number of pathological conditions, which not only differ in character in different individuals but vary from time to time in the same individual. It should follow logically from this conception that symptomatic treatment of the different manifestations of the diathesis will be unsuccessful unless at the same time the underlying abnormality of constitution is attacked by dietetic and hygienic measures. In infancy the diathesis shows itself by a retardation of growth and development, even in good hygienic circumstances and upon a suitable diet. Common manifestations are attacks of seborrhœic eczema, with a copious exudation on the scalp, asthma-like paroxysms of acute exudative bronchitis, and attacks of diarrhœa marked by the passage of much mucus and eosinophil cells in the stools. The prevention of these various attacks and an increase in the rate of growth is to be attained by a diminution in the amount of fat and by the addition of larger quantities of carbohydrates and, if possible, of cereal foods to the diet. An intolerance for cow's milk is characteristic of the condition.

In later childhood symptoms of the most varied sort are to be expected in the subjects of the diathesis—general glandular enlargement, lymphatism, anaphylaxis, migraine, cyclical vomiting, rheumatism, mucous disease, laryngismus stridulus, orthostatic albuminuria—these and many more pathological conditions are all swept into the net and regarded, not as separate disorders, but as different manifestations of a single diathesis. At the same time it is insisted upon that all cases do not show marked or characteristic symptoms, and that the great majority of children who are said to be "threatened with tuberculosis" or to be suffering from anæmia are to be included in the group.

Whatever opinion may be passed upon the propriety of such an attempt to link together so great a variety of disorders, the nature of which, in many

cases, is still but imperfectly understood, it must be acknowledged that the present work achieves its purpose admirably and expresses the accepted teaching in Germany in the clearest and most concise way possible. The greater part of the book, not unnaturally, is devoted to symptomatology, but room is found for a complete discussion of the treatment, consisting chiefly of dietetic and hygienic recommendations, and for an inquiry into the essential cause and nature of the constitutional abnormality underlying the different manifestations. H. C. C.

Occasional Papers on the Prevention of some Common Diseases in Childhood. By J. Sim Wallace, D.Sc., M.D., L.D.S., Dental Surgeon to the West End Hospital for Nervous Diseases. London: Baillière, Tindall & Cox, 1912. Pp. 103. Price 3s. 6d. net.

The title of this book is a misnomer, as with the exception of dental caries, adenoids, and, incidentally, tuberculosis, the common diseases of childhood are not mentioned even so much as by name. To oral sepsis, however, the author vaguely attributes 20 or even 50 per cent. of children's diseases—a statement with which we cannot agree. The book consists of nine articles, many of which have been already published, three as long ago as 1908, and one in 1909. It contains nothing new, and for the most part consists of a reiteration of the author's views as to the cause of dental caries and adenoids. That caries of the teeth is mainly due during the first dentition to soft food which does not demand efficient mastication and at a later age to an improper dietary and unsuitable carbohydrates was promulgated by Dr. Wallace certainly as far back as 1900, while his theory that adenoids are caused by the admission of cold, damp air through open windows at night was published in 1908. These views are set forth again and again throughout the present volume with a repetition which becomes somewhat wearisome, whole pages in one article being almost identical with those in another.

Tuberculosis is very briefly dealt with in an article on the prevention of the disease, and the discussion of the routes of entry of the bacilli into the system is quite inadequate. Dr. Wallace considers that the commonest portal is by way of the faucial and pharyngeal tonsils when these are in a diseased state. He adduces no proof, but simply uses the statement to introduce once again his theory of adenoids being caused by open windows in damp localities.

The last chapter on infant mortality and milk is likewise disappointing, to say the least of it. Six pages only are devoted to the subject, and these are almost entirely taken up with an attempt to show the unsuitability of a milk diet for nursing mothers and growing girls. Breast-feeding is, of course, advocated, but all that is said about the artificial feeding of the infant is the bare statement that "cow's milk must always be unsatisfactory for children."

There is undoubtedly some truth in the author's remarks concerning the dietary of children, but that improper food is the chief cause of dental caries is, we think, still a matter which is open to doubt. Dr. Wallace states that "now practically the whole of the influential part of the dental profession hold (*sic*) views similar, if not identical, to" his own. We must leave it to the members of the dental profession to say whether they do.

T. R. W.

HERSELF: TALKS WITH WOMEN CONCERNING THEMSELVES. $1,00. CONFIDENCES: TALKS WITH A YOUNG GIRL CONCERNING HERSELF. 50 cts. TRUTHS: TALKS WITH A BOY CONCERNING HIMSELF. 50 cts. FALSE MODESTY: THAT PROTECTS VICE BY IGNORANCE. 50 cts. By DR. E. B. LOWRY. Chicago: Forbes & Company.

IT seems nowadays to be generally accepted as desirable that the woman should know something of her internal organs, and on the whole Dr. Lowry imparts the information with sufficient reticence and accuracy. The anatomical and physiological details are, curiously enough, since they come from a medical woman, sounder than the medical and hygienic hints scattered through the volumes. In the first volume, for instance, women are told that if every woman would assume the knee-chest position *once or twice a week* she would be greatly benefited—"for the majority of women have a slight falling of the womb." Again, we are told that, many a woman who has been nervous all her life owes her condition to a hooded clitoris, . . . "a hooded clitoris also may have something to do with the immoral life of some girls." Dr. Lowry also comes out in defence of the modern corset.

In the 'Confidences' the author has attempted something altogether beyond her powers. It requires no mean gift of literature "to tell in suitable language the facts that should be known by every young girl from ten to fourteen years of age," and this gift is just not possessed by Dr. Edith Lowry. In 'Truths' her intentions are equally laudable and equally a failure. We are not at all sure that it were not better for boys and girls to acquire their knowledge of sex matters in the usual furtive way, with all its dangers, than to read these chapters on "The Baby's Nest," "Building the Nest," and so on. These little books might serve, however, as useful hints to the mothers or fathers who desire to instruct their children. It is almost time to warn simple-minded persons like Dr. Lowry that they are expecting altogether too much from their attempts at imparting scientific information on sex to girls, boys and youths. In itself it will do but little to prevent the ills we all deplore. Outside the strictly sex teaching there are plenty of sensible hints in these books; sensible advice to girls about their feeding, about the possible need of rest during menstruation, about undue worrying over business matters, and about "false medical advice" and so on. With greater experience and a good deal of hard thinking Dr. Lowry might write a book quite worth a woman's reading.

M. D. E.

THE CARE OF CHILDREN. By ARTHUR MILLER, M.D., M.R.C.S., L.R.C.P. London: Eveleigh Nash, 1912. Pp. 272. Price 2s. 6d. net.

THIS volume contains valuable hints to mothers and others on the care of children from birth onwards. The subjects of feeding and hygiene are well discussed, and there are two good chapters dealing with the common ailments of childhood, besides a valuable chapter on remedies and recipes for making various foods. We can heartily recommend this book on a subject of which a good deal of ignorance exists amongst the laity.

F. R. B. A.

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Original Articles.

THE DIAGNOSIS OF ACUTE ABDOMINAL CONDITIONS IN CHILDREN.*

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IT may be laid down as an axiom that the diagnosis of acute abdominal disease necessitates a mental inventory of all the numerous affections which may give rise to the particular symptoms present in the patient under examination. In many cases the symptoms afford decisive evidence of the underlying cause. Frequently they are indefinite, and a diagnosis can only be arrived at by a process of exclusion. Occasionally, accurate diagnosis depends on the *look and see* policy of an undecided surgeon or on the *wait and see* patience of a less enterprising physician. Perhaps these adjectives are undeserved, but I could easily quote many cases in justification of my meaning.

Several years ago I saw in consultation with a general practitioner and a Fellow of the College of Physicians an eight-year-old boy who had previously had two attacks of vomiting and colic. On March the 3rd he ate plum pudding. At night he was seized with vomiting and colic, and the bowels acted. Next day there was much

* The opening address in a discussion at a meeting of the Harveian Society of London on February the 20th, 1913.

bilious vomiting. On March the 5th the family doctor was called in, as the vomiting and colic persisted, and the bowels were confined. I saw this boy four days later. His bowels had not acted; and he had vomited twice in the previous twenty-four hours, bringing up a little food and mucus on the last occasion. Examination showed a rather dry, furred tongue, pulse-rate 84, rectal temperature 99. 4°F. There was some distension of the abdomen, chiefly of the transverse and descending colon, and gurgling of wind, but no visible peristalsis. Pain was referred chiefly to the umbilicus, and there was no tenderness or local resistance. A little pale fæces were found in the rectum. The boy did not look seriously ill, although the symptoms had persisted for six days.

The main points were the vomiting, colicky pains and constipation of six days' duration. There was certainly no peritonitis. The family doctor, a man of much surgical experience, was strongly in favour of an exploratory operation, whereas I agreed with the physician that there was no evidence sufficient to justify such treatment, and that in all probability the attack was due to colic from indigestible food, though it was impossible with certainty to exclude tuberculous adhesions. Hot fomentations and castor oil, drm. ij every three hours up to four doses, were prescribed. The result was satisfactory, for after two or three doses of the oil the boy vomited some plum pudding and rapidly recovered.

It is easy to advance strong arguments in favour of the *look and see* policy. In a recent address to the Medical Society of London on the importance of immediate operation in appendicitis, Mr. Edmund Owen. ('Brit. Med. Journ.,' 1913, i, p. 321) set up a most venerable "Aunt Sally" in the guise of "an *illustrious* physician," apparently a somewhat senile and out-of-date survival of the physicians of the days of his youth and now as extinct as the dodo. His vivid word-picture of this *rara avis* does not bring to my recollection any physician with whom I have been brought in contact in recent years. Perhaps, as Mr. Owen suggests, these were not *illustrious* physicians. With admirable dexterity and in graceful phraseology he demolishes his bogey, this physician who "likes to take time in making up his mind; but whilst he is musing the fire burns."

It is not only physicians who postpone immediate operation. Sometimes the physician is more surgical than the surgeon, and the surgeon declines to explore. Not long ago I was asked to see a boy, whom a surgeon had declined to operate on for supposed appendicitis, and yet a few hours later the appendix was found gangrenous. Within a fortnight the same surgeon operated with

admirable success on another boy with appendicitis, in whose case I had advised delay a few hours before, because the symptoms were so indefinite.

A very characteristic case was that of a boy, aged 7 years, who after playing football went home on the top of an omnibus and ate an excellent tea of bloater-paste and buns. At night he was seized with abdominal pain, and vomited after a dose of pulv. rhei co. Constipation and colic persisted, and an eminent surgeon who saw him on the fourth day found a lump in the right iliac fossa. This was thought to be fæcal, and as the result of an enema that day and castor oil on the next day it disappeared. Two days later the boy was very much worse, with vomiting, abdominal pain and collapse, and when I saw him on the morning of the ninth day he was obviously moribund from general peritonitis, which in my opinion was secondary to appendicitis. He died about an hour later.

The question is essentially one of diagnosis, and such a case as the one just quoted strongly supports the practice of exploratory operation, *provided that there is sufficient evidence to warrant exploration*. It is a moot point as to who is the most trustworthy person to decide what is sufficient evidence. The surgeon claims the right, and justifies himself by occasional brilliant successes, finding a gangrenous or a perforated appendix, although the signs thereof have been most indefinite. He tries to bolster up his claim by the ill-founded assertion that physicians are unduly apt to wait and depreciate the value of surgical interference. He lightly ignores those cases in which his exploratory activity has proved unnecessary, perhaps even injurious, on the grounds that exploration is trivial in its risks. And he quite ignores the mental anxiety of the patient and relatives, the trouble and inconvenience of being laid up for a fortnight, the monetary expense, and the disorganisation of business and household management so often involved. Some of these objections do not apply to children. The modern physician may justly claim that he is the more reliable guide, for he is not biassed in favour of operation, nor is he averse from such treatment when it is necessary. And he can point to cases in which his experience would have saved the patient from a needless exploration and the surgeon's reputation from perhaps being slightly tarnished. I refer more particularly to the cases of pleurisy, pneumonia, Henoch's purpura, hæmorrhagic colitis, the gastric crises of tabes dorsalis and the onset of diabetic coma, which have been operated on because of intestinal symptoms suggestive of abdominal disease.

These arguments may be applied generally to all acute abdominal conditions. Immunity from ill-effects of exploratory operation does not warrant recourse to such a method of diagnosis, unless there is reasonable evidence of an abdominal condition which may be amenable to surgical measures. It is advisible, therefore, to cultivate the art of making a diagnosis before operating, and not to get into the less troublesome method of opening the abdomen for the sake of a visual examination in all doubtful cases.

Differential diagnosis is based on symptoms and physical signs, to which I must now draw your attention. Fortunately in children there are certain diseases, characterised by acute abdominal symptoms, which may be rapidly excluded from our consideration. Tabes dorsalis is exceptional, and it must be extremely rare for gastric crises to give rise to error. Diabetes is uncommon, yet it may happen that the onset of coma is ushered in by severe epigastric pain and vomiting, simulating perforation of the gut or appendicitis. Perforation of a gastric or simple intestinal ulcer is also exceptional, for both are rare, and less liable to perforate in children than in adults. Acute pancreatitis practically only occurs in the course of mumps. Cholecystitis and gall-stone colic are almost unknown in childhood, except that the former may occur in typhoid fever. Renal colic is infrequent and apparently not as severe as in adults. Vesical calculus is unlikely to cause misleading symptoms. Embolism or thrombosis of the mesenteric artery is a rare event, giving rise to acute abdominal pain and vomiting, with hæmorrhage into the wall of the intestine. Lead colic is not often very acute, but the association of pain and extreme constipation may be misleading.

Occasionally acute epigastric pain follows the injection of serum. Traumatism and rheumatic myalgia of the abdominal wall are uncommon causes of difficulty in diagnosis; so, too, myositis or abscess in the rectus muscle, a sequel of typhoid fever. Gastro-intestinal symptoms of a severe type may usher in rheumatic fever and are not infrequent in influenza, leading to a reasonably grounded suspicion of serious abdominal mischief, usually appendicitis. Foreign bodies and ascarides in the gut may also give rise to acute abdominal symptoms. And in the course of chronic abdominal troubles an acute exacerbation may occur, but the history of the case generally reveals the origin of the acute symptoms, *e. g.* idiopathic dilatation of the colon, tuberculous peritonitis, congenital cystic kidney and surgical kidneys. In tuberculous peritonitis difficulty may arise. Thus, a child is seized with colicky pains, severe constipation and frequent vomiting, signs suggestive of partial or

complete obstruction by bands or adhesions. In a case under my care several such bands were found and divided, but two days later the child had definite symptoms of meningitis. I believe that the abdominal symptoms were due to the onset of the meningitis and not to the abdominal state.

Acute abdominal symptoms may develop several months after operation for appendicitis. An eight-year-old boy, operated on for appendix abscess five months previously, was attacked with vomiting, collapse, abdominal pain and tenderness and fever. Next day he vomited once only and was moderately feverish. I saw him on the following day as the fever and pain continued, but there was no vomiting and the bowels had twice acted normally. The temperature was 100° F., tongue furred and moist, and the abdomen a little distended. There was no localised or generalised pain or tenderness, and nothing abnormal felt *per rectum*. The diagnosis was doubtful, but it was hoped that the attack was due to chill or influenza. Treatment by enema and castor oil failed to evacuate the bowels. Next day there was more distension, greater apathy, and a marked rise in the frequency of both pulse and respiration. No flatus was passed. On exploration in the evening there were found multiple adhesions and loculated collections of blood-stained serum. Death took place twenty-eight hours later from acute peritonitis.

Meckel's diverticulum may give rise to intestinal obstruction. Sometimes there is a history of minor attacks. The usual signs are localised meteorism and bulging, above or below the umbilicus, tenderness to the right of the umbilicus, and early fæcal vomiting. Diverticulitis closely resembles appendicitis. It causes sudden abdominal pain, perhaps vomiting, and some fever, local tenderness and muscular rigidity. But the chief acute abdominal conditions, apart from those not requiring surgical treatment, are appendicitis, intussusception, hernia and intestinal obstruction.

The *age* of the patient is of some assistance in diagnosis. Thus, atresia of various parts of the alimentary tract gives rise to symptoms in the first week of life. Those of congenital stenosis usually come on quite early. Evidence of congenital hypertrophic stenosis of the pylorus is found within the first month, generally in the second or third week, and the symptoms are of gradual development. Occasionally acute vomiting and hæmatemesis have been noted, probably due to sudden or rapid congestion of the pyloric mucosa. Two thirds of the cases of intussusception occur in the first year, and three fourths in the first two years of life. Henoch's purpura is

a disease of older children. Strangulated hernia may occur in quite young infants. Volvulus is rare in children. Appendicitis is uncommon under five years of age, but I have seen cases in the first and second year as well as at other ages.

The main symptoms and physical signs of acute abdominal disease are vomiting, abdominal pain, constipation, the condition of the abdomen, collapse, toxæmia, the abdominal facies, and the character of the pulse, respiration and body temperature.

Vomiting is a sign of many affections. In infancy it occurs with extreme ease and in children it is readily induced. An important point is that vomiting is often kept up simply by the administration of food. Hence in abdominal affections its frequency is apt to depend on whether food is given or withheld. By itself it is of little value in the diagnosis of acute abdominal disease, unless by a process of exclusion other causes can be discarded. It is frequently the first symptom of appendicitis. Vomiting may be excessive, and accompanied by profound wasting and constipation, in some cases of intracranial tumour, suggestive of chronic intestinal obstruction. It is also a striking symptom in the conditions described as acidosis, acidæmia, acetonæmia, aciduria, acetonuria or acid intoxication, recurrent vomiting, and post-anæsthetic vomiting or delayed chloroform poisoning. In acidosis the vomiting is incessant, sometimes hæmorrhagic or coffee-ground in character. Thirst, constipation or diarrhœa, and a certain degree of epigastric pain and tenderness are present. Air-hunger, restlessness and sleeplessness are noticeable. Irritability alternates with dulness and apathy. Prostration is great, emaciation rapid, and the end is ushered in with delirium and convulsions, coma or collapse. The breath smells of acetone, but there is not invariably acetonuria. Usually there is moderate fever and the abdomen is retracted.

In delayed chloroform poisoning, our knowledge of which is largely due to Dr. Leonard Guthrie, similar symptoms are present. Formerly they were ascribed to sepsis or iodoform poisoning. Such symptoms, following an abdominal operation, have also been ascribed to secondary obstruction, and the abdomen has been again opened.

Recurrent, cyclic or periodic vomiting is of somewhat the same type. Abdominal pain is absent, except such as is due to the strain of vomiting. Yet recurrent vomiting may be due to appendicitis, and a French surgeon even ascribes all such cases to this cause. This is not true.

Recurrent appendicitis presents many misleading symptoms. If you are dependent on a history of the case, it is impossible to be

certain of the diagnosis. The patient must be examined during an attack. For instance, a five-year-old girl was brought to me for attacks of vomiting, abdominal pain and fever. These attacks had occurred on and off for two years, were recurring more frequently, and lasted about a week. Nothing abnormal could be found on examination. I advised her medical attendant that they were probably due to recurrent appendicitis or periodic vomiting; and that he should see her from the onset of the next attack and examine for local evidence and for acetonuria. Shortly after, she had another attack with tenderness in the right iliac region, and a diseased appendix was removed. In taking the history of a doubtful case the following are suggestive symptoms of appendicitis: Recurrent stomach-ache, especially if associated with vomiting, diarrhœa, fever, and localised tenderness and rigidity, perhaps all over in a few hours; frequent and perhaps painful micturition during the attacks; and constant malaise with irregularity of the bowels, and periodical attacks of anorexia, colicky pains and abdominal discomfort. Such evidence, if obtainable, would be strongly in favour of an acute abdominal attack being due to gangrene or perforation of the appendix.

Abdominal pain usually takes the form of colic, and by the young is almost always referred to the navel. Young children are particularly bad at localising pain, and leading questions may result in most misleading information. The typical localisation of the pain of appendicitis is well known, but it is sometimes referred to the left side, frequently to the umbilicus, and occasionally to the epigastrium or hypogastrium. It is a more common symptom than vomiting, and is usually associated with tenderness over McBurney's spot, local resistance and rigidity of the rectus muscle. This rigidity is a sign of extreme importance. In the course of appendicitis there is sometimes a period during which the pain and discomfort are relieved, the temperature and pulse-rate fall, and the patient feels better. But the rigidity of the overlying muscle persists, and the apparent improvement is merely due to perforation or relief of tension, the patient being still more urgently in need of immediate operation.

Of the multiple causes of acute abdominal pain unsuitable or indigestible food is the most common. It gives rise to simple intestinal colic, often agonising in character, and occasionally fatal in babies from collapse. Therefore, always inquire into the details of the diet during the previous twenty-four hours, and, in the case of school-children, try and ascertain whether there has been indulgence in raw fruit, ice creams, hokey-pokey, cocoanut, etc. Intussusception

in babies is most common about Christmas, Easter and Whitsuntide, probably because of unsuitable food. In all babies remember that colic may be due to this cause. Simple colic is relieved by hot applications, pressure, vomiting, or by the evacuation of the bowels or the passage of wind. The temperature is generally below normal. Therefore, in the presence of acute abdominal pain the first point to settle is whether it is due to functional spasm or to serious organic disease.

Constipation is present in most of the conditions in which surgical interference is needed, notably in intestinal obstruction. Sometimes appendicitis is associated with diarrhœa. In intussusception a normal motion may be passed at first, the lower bowel being emptied, but after this the stools consist of blood and mucus of a most characteristic appearance. In rare instances somewhat similar stools occur in purpura and in acute colitis, with abdominal pain and tenesmus. If no tumour can be felt there is great difficulty in diagnosis and mistakes have occurred. I have had a case of intussusception referred to me as acute colitis. In case of doubt the child should be examined under an anæsthetic.

The *abdomen* is commonly distended in infants with acute abdominal affections, even in simple colic, intussusception and appendicitis. Usually it is not distended in children with appendicitis, and may not become so until a few hours after the occurrence of perforation, remaining flat and rigid, with tense recti and slight or absent respiratory movements. Or there may be no distension until inflammation causes intestinal paresis. In acute peritonitis the abdomen is rapidly distended, generally acutely painful and tender, and the patient is feverish and has the typical abdominal facies. The pneumococcal variety is often associated with foul-smelling diarrhœa. The gonococcal type is the most infrequent and perhaps at first localised.

Henoch's purpura (purpura abdominalis) deserves special notice, since cases have been operated on for supposed abdominal obstruction or intussusception, and intussusception may occur during its course.

The characteristic feature of the disease is an abdominal crisis, viz. severe colic, sometimes tenderness, vomiting, hæmatemesis and melæna. The vomit consists successively of stomach contents, greenish mucus and dark blood. Initial constipation is followed by diarrhœa, with the passage of blood and mucus, and tenesmus. The abdomen is sometimes distended, more usually retracted, hard, and tender. There is little or no fever, definite prostration, general restlessness, and perhaps enlargement of the spleen. The pain is

severe, colicky, and referred to the umbilical, epigastric or right inguinal region. It varies in severity with the amount of effusion into the intestinal wall and the degree of spasm of the gut above the effusion. Hæmorrhagic œdema of the small intestine or colon has been found. No wonder surgeons advise operation because of the probability of intussusception. Dr. G. A. Sutherland has noted that in about three fourths of all cases the tumour due to the hæmorrhagic œdema is felt in the ileo-cæcal region, just as in intussusception. Possibly angio-neurotic œdema of the intestinal wall may produce similar symptoms, apart from hæmorrhagic signs. In one case I made such a diagnosis and the child recovered. As a rule on careful examination there is found evidence of petechiæ or macular hæmorrhages in the skin, joint pain or swelling, bleeding from mucous membranes, rheumatic pains, or severe œdema. These signs may not be present at the onset. The effusion into the wall of the gut causes partial or complete obstruction, but surgical interference is not required, although there may be grave collapse, dry and brown tongue, thirst, frequent vomiting, and flexion of the legs on a hard and rigid abdomen. These cases are rarely fatal if not operated on and not complicated by secondary intussusception. Obviously the differential diagnosis from intussusception is difficult. The two conditions may be present in the same patient. Intussusception is most common in babies and is ushered in with screaming. Vomiting is a not a conspicious feature, nor is it hæmorrhagic. Pallor and lethargy may be marked, colicky pains are severe, but there is no abdominal tenderness, and a tumour is present. No bile is found on the napkins, with rare exceptions, and in this respect the stools differ from those of hæmorrhagic colitis. This sign is much less reliable in older children. These babies are usually very well nourished, and their lethargic pallor, with sometimes occasional screaming, is most noticeable.

Absence of abdominal movement during respiration is a valuable sign of acute abdominal mischief. It is most noticeable in peritonitis, the breathing being purely thoracic. Surgeons often attach great importance to this symptom. In some cases of pleurisy and pneumonia there is severe abdominal pain, perhaps located mainly in the right iliac region. At the same time the abdomen is distended and tender, does not move on respiration, and may be somewhat rigid. But the appearance of the child is not suggestive of abdominal disease, the rigidity of the abdomen is relaxed during deep inspiration, and the ratio of pulse to respiration is that of pulmonary affections. It is in the early stages, when

physical signs of intra-thoracic disease are slight or absent, that such patients run a risk of exploratory operation. It ought now to be a small risk, for attention has been frequently called to the possibility of this mistake.

The *abdominal facies, toxæmia* and *collapse* are all signs which may occur early in acute cases, notably those of peritonitis and perforation or gangrene of the appendix. In early stages there is often a peculiar facial appearance strongly suggestive of acute disease. It can be described rather vaguely as an anxious, slightly drawn look about the face, with a somewhat greyish pallor. It is probably due to a mixture of toxæmia and slight collapse. Toxæmia is very pronounced in some cases and trivial in others. It is a valuable symptom of appendicitis, and is often the main sign on which stress is laid in recommending operation, being frequently very definite in those cases of gangrenous appendix in which localising signs are slight or absent. Occasionally it is extreme in acute tuberculous peritonitis, but much more often so in the septic and pneumonic types. Collapse is partly a measure of the pain, and partly of the toxæmia. In babies it may be due to the pain of intussusception and simple colic. It is caused in children by sudden perforation of the appendix, and sometimes by rupture of a typhoid ulcer. The pulse, respiration, and the temperature chart afford a certain amount of more or less reliable information. Too much stress has been attached to an increasing pulse-rate as a sign of pus-formation or toxæmia in the course of appendicitis. In my opinion this is of little value, because the pulse-rate goes up so readily in children during examination, and because I do not think it necessary to wait for such evidence, even if reliable, before recommending exploration. For this latter reason I do not attach much importance to leucocytosis as a diagnostic point; the value of the pulse-rate in relationship to the rate of breathing in pneumonia has already been mentioned. Apart from this, the character of the breathing is of more assistance than its actual rate per minute. Nor is the temperature chart of very great diagnostic value. Roughly speaking, simple colic and acute obstruction are afebrile, unless there is some other coincident factor. But a low temperature is often seen in toxæmic states and in collapse due to acute pain, and there may be a sudden drop as the result of relief of tension through the bursting of an abscess or perforation of the appendix. Probably in all doubtful cases it is to the advantage of the patient that a physician should be called in to make the diagnosis, and if he is at all uncertain, the assistance of a surgeon should be requisitioned.

MITRAL DWARFISM.

By F. Parkes Weber, M.D., F.R.C.P.,
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The patient, B. L—, is a girl, aged 15 years, but her size is that of a child of ten years.* She is 50 in. (127 cm.) in height and weighs 54 lb. (24½ kgrm.). Ordinary examination and examination by Röntgen rays shows that the heart is considerably enlarged to the left; the apex-beat is in the sixth left intercostal space in the anterior axillary line. A presystolic and diastolic thrill can be felt, and a loud double mitral murmur can be heard at the apex, showing that there is mitral obstruction, accompanied by mitral incompetence, the mitral incompetence doubtless accounting for the hypertrophy of the left ventricle. There is a little crepitation at the base of the left lung behind. Röntgen-ray examination of the lungs with the fluorescent screen shows nothing special. Nothing abnormal can be felt by abdominal palpation. The teeth are fairly well formed. The nose is somewhat "saddle-shaped," but there is a history of past injury by a fall. The thyroid gland appears to be rather small. There is no pubic or axillary hair. Menstruation has not yet commenced. The urine is free from albumin and sugar. The pulse (after examination) is 100 to the minute, of moderate pressure. Blood-examination): Hæmoglobin, 80 per cent; red cells 4,400,000, and white cells 6600 to the cubic millimetre of blood. The blood-serum gives a negative Wassermann's reaction for syphilis. The cuti-reaction for tuberculosis (after von Pirquet) is negative. Mentally the child seems normal, and is employed at some light work by which she is able to earn a little money.

The history is that the child was born naturally, without instrumental aid, at full term. She learned to walk at thirteen months of age, and seemed like other children till the age of five years, There was no rickets. At five years of age she suffered from measles and congestion of the lung, and after that time was backward in her growth. Three years ago she had an attack of hæmoptysis, and her heart was said to be diseased. Three months ago she again occasionally spat some blood. She is said never to have had rheumatism. There is no other history of dwarfism or infantilism in the family, notably in regard to the patient's sisters. The mother,

* The patient was shown at the Royal Society of Medicine, Section for the Study of Disease in Children, February the 28th, 1913.

who is a "rather small" woman, aged 45 years, has had nine children (no miscarriages or abortions), of which the patient is the eighth. One (the fifth) of the nine children was born dead, and four died early. The eldest child (a married woman, aged 25 years), the sixth child (a girl, aged 19 years), and the ninth child (a girl, aged 9 years) are all living and healthy. The father, aged 44 years, is said to be healthy. Neither the father nor the mother have ever suffered from rheumatism or any severe infectious disease.

In the present case, as in most cases of mitral dwarfism, there is no history of past rheumatism. In some cases the mitral stenosis has been supposed to be of congenital origin and to have been associated with hypoplasia of the large arteries, the imperfect and limited blood-supply leading to defective growth of the whole body—a kind of anangioplastic dwarfism.* According to that theory the mitral disease is primary and leads to diminished flow of blood through the aorta and large arteries, which consequently remain small, the dwarfism of the whole body being regarded as a conservative adaptation to the defective cardiac and arterial conditions. A. Gilbert† thought that in certain cases at least (for instance, in the rare cases of familial mitral stenosis‡) the mitral stenosis and the dwarfism were both to be regarded as manifestations of an inborn tendency to faulty development. Marcel Labbé is inclined to attribute the mitral stenosis and the general dystrophy in such cases to a tuberculous or syphilitic taint.§

In the present case there is absolutely no evidence of the presence of syphilis or tuberculosis, and I have hardly a doubt that the cardiac disease is of rheumatic origin, although there is no history of the child ever having had rheumatism. But rheumatism in young children is not rarely overlooked or mistaken. The dwarfism in this case I regard, indeed, as a sign, not of the congenital origin of the mitral disease, nor of the presence of a tuberculous or inherited syphilitic taint, but as a sign that the mitral disease commenced at a relatively early period of extra-uterine life, long

* Infantilism of Lorain's type was, I think, regarded by E. Brissaud as an "infantilisme anangioplasique" resulting from the action of a chronic congenital or acquired disease during the period of bodily growth and development.

† A. Gilbert, 'Gaz. méd. de Paris,' 1884, lv, p. 198. See also A. Gilbert and F. Rathery, "Le Nanisme Mitral," 'Presse Méd.,' Paris, 1900, viii, pp. 225, 231.

‡ Cochez, "Le Rétrécissement mitral pur, congénital, familial, et héréditaire," 'Bull. méd.,' Paris, 1898, xii, p. 493.

§ Marcel Labbé, "Rétrécissement mitral pur et nanisme," 'Presse méd.,' Paris, 1908, xvi, p. 497. See also Labbé, Rosenthal and Marcorelles, "Rétrécissement mitral pur avec nanisme," 'Bull. et Mém. de la Soc. Méd. des Hôp. de Paris,' 3me sér., 1908, xxv, p. 636.

before the period of maximum normal development. Of the mitral obstruction and the mitral incompetence I consider the former to be the more important factor in the ætiology of the dwarfism. This dwarfism I think may be best explained as the expression of a conservative adaptation or conservative hypoplasia of the whole body—Nature's attempt to limit the growth of the patient in accordance with the limited arterial blood-supply. Such a *conservative hypoplasia* is to be contrasted with the better-known conservative vital process known as *compensatory hyperplasia,* which is illustrated in the present case by the hypertrophic enlargement of the left ventricle to make up for the regurgitation of blood through the leaky mitral valve.

In conclusion it should be mentioned that "mitral dwarfism" (the "nanisme mitral" of French authors) is only one variety (probably the best known) of a group of "cardiac dwarfisms." The dwarfism in all these cardiac cases is a partial infantilism. Therefore the terms "mitral infantilism" and "cardiac infantilism" may be employed if preferred.

SUMMER HEAT AND SUMMER DIARRHŒA.*

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I feel that perhaps I ought to apologise for bringing to your notice so well-worn a subject. I should have felt perfectly content to have left the subject still undiscussed if it had not been that the Epidemiological Section had held very frequent debates upon this very topic. The result has been, I think, that the subject has recently been dealt with too exclusively from a single point of view—that of the epidemiologist. I believe that the carefully argued papers contributed to that Section by Niven, Dudfield and others have had a very great effect in influencing current opinion on the subject, and that as a result all factors in the ætiology of summer diarrhœa other than microbial contamination have been too much neglected. All of these papers start with the assumption that the symptom diarrhœa may be taken as constituting a specific disorder capable of being

* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on February the 28th, 1913.

subjected to a mathematical analysis. Dr. Dudfield, for example, opens his paper read on Feburary the 23rd of last year with the following words: "I do not propose to take up any time in discussing what is meant by the term infantile diarrhœa as I assume that we are all thinking of the same clinical picture." It is because I believe that in dealing with the statistics of infants dying of diarrhœa it is quite impossible to make any such assumption that I have brought the subject before the notice of this Section. Into the total of deaths from diarrhœa among infants in the third quarter of any year I believe a vast variety of disorders is crowded. Many of the cases have been seen under conditions which render an accurate diagnosis unlikely: not a few have received no medical attention at all. Because in infancy one function alone is highly developed—that of absorbing food—disease of whatever nature is apt to show itself with symptoms of alimentary disturbance, and as a result diarrhœa is the common accompaniment of disorders of the most varied nature. It is not my purpose to deny that acute infective enteritis undergoes exacerbation during hot weather or that increased decomposition of milk plays an important part in the production of alimentary disorders. I do contend, however, that even if it were possible to secure a faultless supply of milk we should still witness an enormous rise in the frequency of the symptom of diarrhœa during hot weather.

That the clinical diagnosis between infective and non-infective diarrhœa in the majority of cases is one of great difficulty is generally admitted. Certainly severe and even fatal symptoms, usually regarded as characteristic of so-called summer diarrhœa, may supervene upon an attack of dyspepsia. The products of fermentation of food in the intestine which serve to provoke excessive peristalsis have also a deleterious effect upon the epithelial lining of the alimentary canal, so that their long-continued action or extreme concentration may ultimately lead to the most profound intoxication. With the loss of selective control by the cells lining the alimentary canal and with the subsequent degeneration of the liver-cells the usual symptoms of intoxication, characteristic of summer diarrhœa, appear—high pyrexia, partial coma, immobility of the limbs, unnatural posture, albuminuria, alimentary glycosuria, and irregular, disordered breathing. I believe that it is possible to recognise all stages between a simple dyspepsia and a fatal food intoxication, and that we should protest against the tendency to regard all fatal cases of diarrhœa in the summer as infective in origin.

It may assist in making my meaning clear if I tabulate the possible relations which may exist between the height of the

thermometer and the amount of diarrhœa prevalent in infants and endeavour to assess the part played by each.

(1) The increase in diarrhœa may be due to the *direct* effect of heat upon the infant.

(2) The increase may be due to the *indirect* effect of heat by lowering the tolerance of food, and by increasing the danger of over-feeding in an infant rendered thirsty by the loss of fluid which diarrhœa, vomiting and excessive perspiration entails.

(3) Heat may exert an *indirect* effect by lowering the immunity of the child to infections of all sorts, both of the alimentary tract and elsewhere, and it may indirectly swell the total mortality by aggravating the course of all alimentary and infectious disorders of whatever nature.

(4) Heat may exert an *indirect* effect by favouring the growth and multiplication of micro-organisms outside the body, or by promoting a favourable means for the transport of these organisms, by the multiplication of flies or by the spread of dust.

It is because I think that recent writings have dealt too exclusively with this last supposition that I have ventured to ask that some greater emphasis should be laid upon the others.

(1) The view that the increase of diarrhœa is in great part the direct result of heat is supported by a variety of considerations. It is well known that the power of the infant, and especially of the weakly infant, to maintain a constant temperature is ill-developed. Although the necessity of preventing an excessive loss of heat is insisted upon by all writers upon infant feeding, less stress is laid upon the importance of avoiding the overheating of the child. Yet summer diarrhœa in its most severe forms is almost confined to those of very tender years. Among the occupants of crowded courts and tenements again and again only one member of the community is affected—the infant under one year of age. With the attainment of a higher degree of adaptation between heat-loss and heat-formation, the older children tend more and more to escape. In estimating the direct effect of heat upon the sensitive organism of the child, it is to be remembered that we have to take into account not the temperature of the outer air, much less the temperature of the four-foot earth thermometer, but the temperature of the stifling room in which the infant is confined. Where rooms are small and ill-ventilated, where from lack of windows or in back-to-back houses there is no through draught brought about by the difference of temperature between the back and front of the house owing to the position of the sun, where the percentage of moisture in the air is

high, either from overcrowding or from cooking or washing of clothes, observation shows that diarrhœa is unusually common. Again, many records have shown that in times of great heat the temperature of even healthy infants is raised, while their average gain in weight is reduced. Both of these symptoms occur with considerable constancy during hot weather even in cases which are still quite free from symptoms of diarrhœa and vomiting, and they may be regarded as prodromal symptoms sometimes preceding an attack of diarrhœa by a long interval and culminating in the attack. For example, Schloss, who has lately studied the question in Berlin, recorded the average daily gain in weight of infants who were free from diarrhœa in two of his wards, with the following result:

	May and June. Before the heat.	July and August. During the heat.	Sept. and Oct. After the heat.
First ward	17·5	10·0	14·0
Second ward	16·0	10·0	18·0

Lastly, the close correspondence between the temperature curve and the curve of the total deaths from diarrhœa is itself an argument in favour of the view that the effect of heat is immediate and not mediate. Wherever slum buildings and overcrowding exist the two curves keep pace alike in rise and fall. In this connection the observations of Finkelstein, Willim Liefmann and Lindemann and others upon the correspondence of the daily temperature with the daily total of cases are interesting, for the relation then becomes even more marked than in the usual figures in which the unit of time is a week. If each case arises by infection and is propagated by infection, we should expect that the epidemic when once established under favourable circumstances would sometimes of its own momentum break beyond the bounds set to it by the temperature curve, and that its decline, if occasioned by exhaustion of infective material, would not always coincide with the fall in the thermometer.

(2) We must consider that in times of great heat and of great humidity, on the ordinary ratio of food, the production of heat may be so great that pathological effects are produced. In adults the consumption of food under such circumstances is instinctively lowered. While less is eaten more is drunk to make good the loss of fluid from increased perspiration. In infants the difficulty is greater because the infant's food and drink are bound up in one and the same fluid. No doubt the infant fed at the breast attains the same object though in a different way. The provisions against overfeeding in the breast-fed infant are very effective. When the child

ails, the diminished suction soon interferes with the free flow of milk, and it requires some days of vigorous convalescence before it is again established. Moreover, when the breast is insufficiently emptied the last milk is not obtained, so that the percentage of solids, and especially of fats, falls. No doubt, too, the alteration in the mother's diet, the greater intake of fluid and the decrease in the amount of solid matter reacts to some extent upon the milk and produces a fluid of less concentration. In the bottle-fed none of these safeguards are present, and the thirsty child if left to itself is more apt to suck an excess from a bottle, which offers no fine adjustment of amount and composition from day to day in accordance with the needs of the child.

Salle has studied the question experimentally in puppies. Prolonged exposure to heat produced a rapid loss of weight, diarrhœa, vomiting, and a rise of temperature. When a diverticulum of the stomach was made in the manner suggested by Pawlow the gastric juice was diminished both in amount and in digestive power while the hydrochloric acid secretion decreased. Such a failure of digestive power must give rise to increased fermentative changes in the carbohydrate constituents of the food with consequent stasis and diminution of gastric peristalsis. Dyspepsia so produced, while common enough during a spell of hot weather even among healthy infants, becomes almost the rule among the neglected artificially fed children of the poor, living in the hot, close, stagnant atmosphere of the slums of cities.

(3) Heat may exert an indirect effect by lowering immunity to infections of all sorts. I know of few statistics which deal with the relative frequency in summer heat and winter cold of infections other than those of the alimentary tract. It must be common experience how frequently bronchitis and broncho-pneumonia are associated with severe attacks of diarrhœa in the summer. Furunculosis and subcutaneous abscesses appear to be much more common in hot weather. Among the infants in his clinique, Meyer reports a rise from 15 per cent. of total cases to 41 per cent. in the former and from 6 per cent. to 30 per cent. in the latter. The effect of exposure to fresh air, wind and cold in increasing immunity and of the reverse conditions in lowering it is too wide a subject to be considered in a few words. "Evidence," says Pembrey in this connection, "steadily accumulates to show that the bad effects of over-crowded rooms are due, not to diminished oxygen, not to an increase of carbon dioxide, not to any toxic discharge from the human body, but to the absence of free ventilation, to the warm and humid atmosphere, which reduces the

respiratory exchange and metabolism of the inmates, and renders them less resistant to the attacks of micro-organisms." No doubt alimentary infections share in the common increase, but of the cases which go to swell the total deaths from diarrhœa during the summer in very many the diarrhœa and vomiting are symptomatic of other disorders.

(4) There remains the supposition that heat is prejudicial because of the increased bacterial content and increased decomposition of milk. If I have laid emphasis on the part played by other factors than the contamination and decomposition of milk, it is not because I wish to underrate the importance of a pure supply of milk. I believe, however, for the reasons I have given, that even if we could ensure a perfect supply of milk, we should still witness during hot weather a rise in the mortality from diarrhœa little less than that to which we are now accustomed. If the cause of summer diarrhœa is to be found in the multiplication of bacteria in the milk, then some explanation must be found for the frequency with which infants fed at the breast are attacked, and for the high mortality among infants fed upon condensed milks and patent foods, in which the bacterial content is relatively low. Moreover, it is to be remembered that the organisms which occur in milk are usually of a harmless character, and that butter-milk has even proved itself of some value in infant feeding. No doubt the organisms in milk sometimes include others less innocent in character, yet a vast amount of bacteriological work has not succeeded in establishing a causal connection between any one organism and so-called epidemic diarrhœa.

In conclusion I may put forward for acceptance or criticism the following propositions :

That neither direct over-heating of the child, nor disturbances of digestion, nor intercurrent infective disorders, nor direct infection of the alimentary tract is sufficient of itself to explain the rise in the mortality from diarrhœa in the summer, but that in that rise each plays a part ; that of all the deaths registered as due to diarrhœa in the summer a small fraction only is due to bacterial infection of the alimentary tract ; and that the progress of knowledge with regard to the prevention and treatment of diarrhœa has been not a little hindered by regarding the problem from a standpoint too purely epidemiological.

If so much is granted it follows that greater emphasis should be laid upon such prophylactic measures as the supply of an adequate quantity of water for the child during hot weather, the reduction of the carbohydrate percentage in the food, the use of cooling baths

and of light and porous clothing, and the proper ventilation of rooms, courts and alleys. New York, which suffers so profoundly from the disease, has taught us a lesson in the provision of rapid means of transport of over-heated infants to the fresh and moving air of the sea coast.

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DIPHTHERIA OF THE STOMACH, WITH A NOTE ON DIPHTHERIAL ONYCHIA.

By Frank E. Tylecote, M.D., D.P.H., M.R.C.P.Lond.,

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My excuse for this note is the interest caused by a specimen of diphtheria of the stomach which I showed to the Pathological Society of Manchester on January 18th, 1911, and the desire since expressed that I should make the record of the case more readily available. I take the opportunity also of mentioning very briefly a case of diphtherial onychia.

The references in the literature to diphtheria of the stomach are very few. But after consideration of what cases there are on record, and taking one's own experience into account, one arrives at the conclusion that the condition is commoner than appears from the literature; in only a small proportion of the fatal cases of diphtheria is an autopsy performed and even when a post-mortem examination is made, the alimentary canal is not always opened up if no symptoms connected with it have been noted.

In the New Sydenham Society's translation of Ewald's 'Lectures

on Diseases of the Stomach,' 1892, we find a reference to the inaugural dissertation of Kalmus in 1888, where he found gastric diphtheria in 6·5 per cent. of his 199 cases. According to him the seat of the ulceration is generally at the cardia, and the stomach cavity is involved by extension in streaks. In other cases isolated sloughs are found, especially in the fundus, reddish or brownish in colour, with reddened areolæ, or membranes formed of fibrin, mucus and desquamated glandular epithelium. The upper layers of the mucosa slough, the membranes separate and fatal hæmorrhage may result. Kalmus found numerous bacilli in the slough and necrotic tissue, and not only here, but in the underlying healthy tissue and even in the submucosa.

Smirnow, in 'Virchow's Archiv,' describes two such forms of disease. He says the tissues throughout were free from organisms. In one of his cases there was a fibrinous inflammation, without destruction of the secreting epithelium, in the other the mucosa itself became affected by a necrobiotic process, and underwent what von Recklinghausen described as hyaline degeneration of the cellular elements.

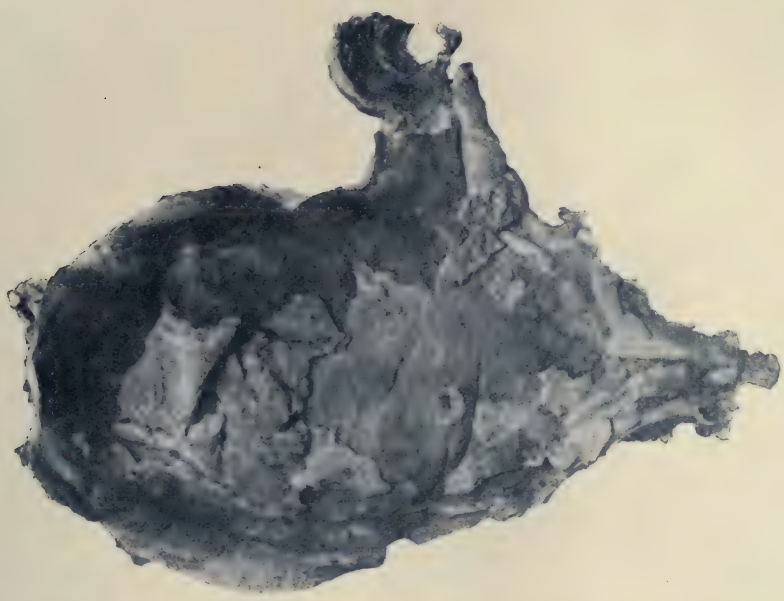
In 1901 Councilmann, Mallory and Pearce published in Boston a record of the bacteriology and pathology of 220 fatal cases of diphtheria, and amongst these they found five cases of diphtheria of the stomach. A fibrinous membrane, hæmorrhagic beneath, was present in all cases. In one case the membrane extended to the duodenum. They found extensive degenerative changes in the glands of the stomach, not limited to the places underlying the membrane. The intestine itself showed swelling and hyperæmia of Peyer's patches and of the solitary follicles, but otherwise nothing abnormal was detected.

W. P. Northrup, in the volume on "Diphtheria, Scarlet Fever and Measles" of 'Nothnagel's Encylopædia,' published in 1902, mentions that during a recent epidemic of measles at the New York Foundling Hospital two cases of diphtheria of the stomach were found at autopsy. Mallory, writing in 1908 on the pathology of diphtheria, says that with the exception of the formation of membrane which sometimes occurs in the œsophagus and stomach the lesions of the gastro-intestinal tract are relatively unimportant. Lymphoid hyperplasia is seen, with changes in the spleen and lymph-glands. The slight extent of the lesions indicates that the source of the toxins is the blood and not the alimentary canal. There is nothing to indicate that the toxins are eliminated by the alimentary canal.

In 1895 Courmont, Doyon and Paviot published some records of

experiments in which they had injected cultures of diphtheria bacilli into the blood-stream of dogs, and found lesions of the small intestine varying from a simple vasomotor dilation, with or without diapedesis, to a true cellular exudation, constituting a true membranous enteritis. The lesions found were proportional to the doses given. These authors believe that diphtherial toxins are eliminated by the intestines. Peyer's patches showed evidence of degeneration. Councilmann, Mallory and Pearce discuss this theory but do not accept it, regarding the intestinal lesions as the result of toxins

Fig. 1.



circulating in the blood-stream, but as no proof of the elimination of toxins by this route.

The specimen of which Fig. 1 is a photograph is the stomach of a male child, aged 3 years. I first saw him on the fifth day of a very severe attack of diphtheria, and up to this time he had been given no antitoxin. I found him with a subnormal temperature and very toxic in appearance; there was false membrane covering the posterior pharyngeal wall, tonsils, uvula, the whole of the soft palate, and extending forwards on the hard palate almost up to the teeth. Considering the extent of the membrane and the duration of the disease without any antitoxin treatment, the case was of course hopeless from the first, but in order to give him any possible chance

I injected 8000 units of antitoxin at once into the left median basilic vein, following this the next morning by a similar injection into the right median basilic. In the forty-eight hours after this I gave him three more injections of a similar amount of antitoxin subcutaneously. However, as expected, he died of toxæmia on the tenth day of the attack, having vomited blood the day before and having developed scattered petechiæ about the body, both not uncommon signs in toxic diphtheria.

The post-mortem examination, made the same night, showed nothing unusual for this type of case except the stomach, shown in

FIG. 2.

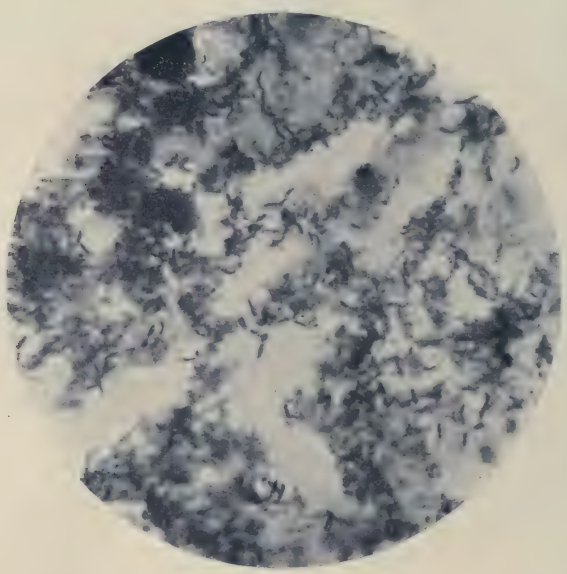
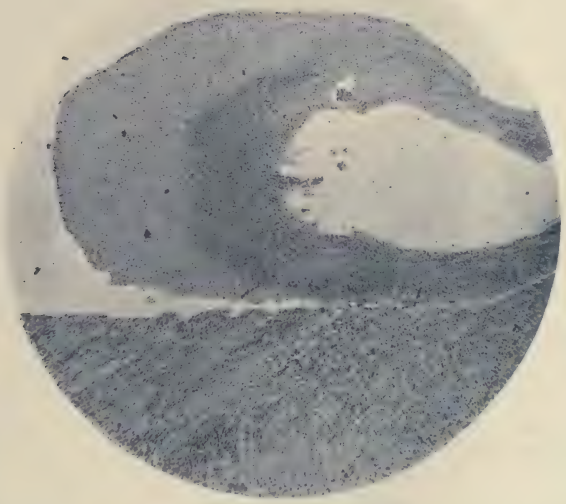


Fig. 1. The mesenteric glands were deeply injected ; there was toxic myocarditis ; the left ventricle contained adherent fibrinous clot ; the superior longitudinal vein contained a thrombus ; the bulk of the blood was in the abdominal cavity—all of these the usual post-mortem findings for the class of case.

On opening the stomach a false membrane was seen covering its entire surface. Of this some had become detached prior to the taking of the photograph reproduced in Fig. 1, but enough remains to indicate the condition quite clearly. It was loosening in places, but none had separated at the time of the examination. It was definitely limited to the boundaries of the stomach, and did not extend into the œsophagus, nor yet into the duodenum. Smear prepara-

tions were made at the time from fragments of the false membrane and typical clumps of Klebs-Lœffler bacilli were easily found. Fig. 2 is a high-power microphotograph of a piece of the detached membrane and shows the bacilli plainly. In Fig. 3, a photograph of a section of the stomach-wall, the false membrane is seen to be well developed, and beginning to become detached. At the time of the post-mortem examination considerable swelling of the mucosa was evident, and on stripping off the membrane in places the hæmorrhagic injected state of the mucosa was very marked. Fig. 3 shows the leucocytic infiltration of the mucosa and the swelling of the

Fig. 3.



glandular epithelium. I regard this case as true diphtheria of the stomach, or *diphtherial* gastritis, and not, as some of the recorded cases are, merely a membranous or *diphtheritic* gastritis, due to circulation of the diphtherial toxins in the blood-stream. In these cases there is definite necrosis of the mucosa. In Fig. 3 it will be seen in my case that where the false membrane has become detached there is a practically intact mucosa, while Fig. 2 proves that we had to do with a definite false membrane containing diphtheria bacilli.

Diphtherial Onychia.

Some years ago, when I was resident in a fever hospital, one of

my medical colleagues was troubled for some time with a very localised onychia at the side of one of his finger-nails. In spite of antiseptic and cauterising treatment extending over some weeks it refused to heal. He looked toxic and complained of feeling run down, but had no temperature, and very slight glandular enlargement. At this stage I made some films of the thin scanty discharge from the side of the nail, and obtained in these and also from cultures pure preparations of Klebs-Lœffler bacilli. A 4000 unit dose of antitoxin was now given, and in about five days the local condition had healed, while he rapidly regained his strength, no paralysis following.

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Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, March the 28th, 1913.

Dr. J. WALTER CARR, *Vice-President, in the Chair.*

A Case of Tremor (? Congenital).—Dr. FREDERICK LANGMEAD.—The patient, a girl, aged 10 years, had definite tremor of both upper limbs, moderate in amplitude. It interfered somewhat with school work, but otherwise caused no discomfort. It had been noticed particularly during the last two

or three years, but probably dated from infancy. There were no signs of organic nervous disease.

A Case of "Nervous Cretinism."—Dr. Langmead.—The patient, a boy, aged 10 years, was an undersized and mentally deficient child who first attended the Hospital for Sick Children, Great Ormond Street, when $7\frac{1}{2}$ years old, and then exhibited the usual signs of cretinism to a moderate degree. He could not sit alone, stand, or talk, and was "dirty in his habits." His appearance was characteristic. Under thyroid treatment he had improved considerably in his general condition, and could walk, although badly, and became clean in his habits. His vocabulary was still very limited and pronunciation imperfect, only a few simple words being used and these in a monotone. He had lost most of the aspect of cretinism. The feature of special interest was a co-existing cerebral diplegia affecting chiefly the legs. These were stiff, adducted, and their deep reflexes were exaggerated. The plantar response was sometimes definitely extensor. The arms were little, if at all, affected; the triceps jerks were brisk and (?) slight rigidity was present. He stood in the knock-kneed position, with feet abducted, and walked with adducted legs, but without scissor-leg progression. The thyroid could not be felt. Dr. Langmead said that he had called the case "nervous cretinism" after Major Robert McCarrison, I.M.S., who had described the association of cretinism with spastic paralysis in his study of endemic cretinism in the valleys of Chitral and Gilgit in India. That writer regarded the paralysis as part of thyroidal inadequacy, and had obtained some success with thyroid therapy in such cases.

A Case of Defective Ossification of the Skull in a Boy.—Dr. Langmead.—There was marked pulsation over the posterior end of the interparietal suture. This was apparently cerebral in origin and transmitted through a small foramen.

A Case of Congenital Thoracic Deformity.—Dr. F. G. Crookshank and Mr. Sidney A. Boyd.—The patient, a boy, aged $6\frac{1}{2}$ years, was the subject of congenital thoracic deformity affecting the right side. There was a large depression in the upper part of the front of the chest, and an oval gap could be made out in the bony parietes, measuring four inches in its long diameter (which passed obliquely downwards and forwards from the axilla) and three inches transversely. The defect was apparently due to absence of the anterior portions of the second, third and fourth ribs. The fourth rib appeared to join the fifth. The sternum was asymmetrical, and the right upper costal cartilages, which were attached to the sternum, were bent backwards. There was a marked hernia of the right lung. The clavicle and scapula were smaller on the right side than on the left. There was scoliosis of the dorsal vertebræ, convex to the right. The pectoralis major was fairly well developed, but was not so large as on the left. The pectoralis minor and the upper part of the serratus magnus were apparently absent. There was some depression of the corresponding area of the left side of the chest, but no bony defect. The condition appeared to fall within the category described by Dr. J. Thomson in 'Teratologia' (January, 1895) as "congenital thoracic deformity." As in Dr. Thomson's cases, if the arm were flexed at the elbow and the hand placed on the front of the opposite shoulder, the deformed area was found to be almost exactly covered by the upper arm. So far, then, Dr. Thomson's suggestion, that this kind of deformity was due to intra-uterine malposition, was supported.

A Case of Achondroplasia.—Mr. A. S. Blundell Bankart.—The patient was a girl, aged 7 years. The parents were first cousins. The condition was first noticed in infancy. The child had been treated for rickets when sixteen months old, and the treatment had been continued for three years without effect. She was stunted in growth. The head was normal, not rickety. The teeth were good, dentition not being delayed. The chest was narrow, the sternum being prominent (pigeon-breasted). Very slight beading of the ribs was present, and a well-marked horizontal sulcus traversed the lower part of the chest. Lordosis existed. Upper extremities: great enlargement of epiphyses; skiagrams showed marked irregularity and "cupping" of epiphysial lines; diaphyses stunted. Extreme laxity of wrist-joints was present, yet she had a good grip and could use the hands well. There was looseness of the elbows; the head of the radius on each side could be dislocated and replaced with ease. The lower limbs were very slightly affected, the epiphyses being hardly, if at all, enlarged; the diaphyses were not stunted. There was slight genu valgum, which had improved by treatment.

A Case of Circumscribed Serous Meningitis.—Mr. Lionel E. C. Norbury.—The patient was a male chid, aged 13 months, admitted to the Belgrave Hospital on August the 6th, 1912. There was a history of convulsions fifteen days previously, followed by right facial paresis and tremor of the right hand. No history of trauma was obtained. An abscess on the left side of the neck had been incised two months before admission, and discharge from the right ear occurred at the same time. On admission he was seen to be a well-nourished but very pale child. There was a fine, regular tremor affecting the right arm and hand, right leg, right side of mouth, and also the tongue and lower jaw. Right facial paresis and slight convergent strabismus were present. The knee-jerks were present and equal, not exaggerated. The abdominal reflexes were present. Lumbar puncture failed to withdraw fluid. No changes were seen in either fundus oculi. At an operation the left parietal bone was trephined over the centre of the Rolandic area, and the opening in the bone enlarged so as to freely expose this area. The dura was incised crucially and the pia-arachnoid found to be very swollen and œdematous. The pulsation was feeble. The tremor gradually disappeared, first from the leg and then from the arm and face. The wound healed by first intention. Cerebro-spinal fluid collected under the scalp-flap, and was evacuated every few days (five times in all) until it ceased. Nine days after the operation there was no sign of tremor. The patient was seen on March the 20th, 1913, when the general condition was found to be very good. A very slight facial weakness remained. In the region of the craniotomy wound there was a moderate degree of bulging.

Acute Poliomyelitis affecting the Muscles of Both Hands.—Dr. R. C. Jewesbury.—A girl, aged 12 years, had an attack of "influenza" six months ago, being very feverish for two days; she then became very weak in the right arm, and to a less extent in her back and right leg. She showed marked wasting of the muscles of both hands, and also wasting of the muscles of the right arm and shoulder. The triceps was the muscle most affected in the arm.

Congenital Eversion of the Great Toes and other Abnormalities.—Dr. F. Parkes Weber.—The patient was a healthy-looking female baby

aged 7½ months. Both great toes were everted and overlapped by the other toes, and the deformity thus produced suggested at first sight the eversion of the great toes not rarely met with in elderly persons, often associated with ulnar deflexion of the fingers, and often wrongly ascribed to the wearing of badly shaped boots or shoes. Both the child's thumbs were turned inwards across the palms, and there was also an abnormal projection on the left side of the neck. The patient, who seemed otherwise quite normal, was the only child of healthy parents, both young. There was no history of any similar malformation in any other members of either the mother's or the father's family, nor was there any definite history of "maternal impression."

Sections from a Case of Progressive Muscular Atrophy (Werdnig-Hoffmann Type) in a boy, aged 3 years.—Dr. Leonard G. Parsons — The child had been normal until aged ten months, when progressive wasting began. This was first observed in the shoulder muscles and the upper part of the thigh. Ability to hold the head erect was lost in the third year. On admission to hospital the cranial nerves were normal. There was almost complete flaccid paralysis of the shoulder-girdle muscles, double wrist-drop, and supination was impossible. Movements of the fingers were possible but feeble. The lower limbs showed wasting, chiefly above the knees, and contractures, the only movements possible being flexion and extension of the ankles and toes. The abdominal and intercostal muscles were paralysed. He was unable to sit up alone or hold the head erect. Scoliosis was present in the lower dorsal and lumbar regions. Knee, ankle and arm-jerks, and abdominal reflexes were absent. There was no sensory change. The cerebro-spinal fluid was normal. There were marked diminution of electrical excitability and slight reactions of degeneration. Death was due to broncho-pneumonia. Necropsy: Subcutaneous fat was present in fair amount and masked some of the muscular atrophy. The affected muscles were very pale and atrophic, the diaphragm by contrast being a good colour. The muscles showed fibrosis. Some of the muscle-fibres were larger than normal and had a rounded contour; the majority of the altered fibres were smaller than normal (0·01 mm. and less), and some were on the point of complete atrophy. The small fibres showed an enormous increase in the number of nuclei. Striation was well preserved and muscle spindles were normal. Many fibres showed fatty degeneration. The anterior nerve-roots were smaller than normal and showed overgrowth of fibrous tissue. Nissl sections of the cord showed a striking diminution in the number of cells in the anterior horn, about one third the normal number being present. The cells were also smaller than normal and their processes less marked. Some showed a degree of chromatolysis. Marchi sections showed no change.

Diffuse Sarcomatosis of the Brain and Spinal Cord.—Dr. Parsons.— The specimens were from a child aged 2 years. Symptoms started four months before death. The initial symptoms were headache and violent screaming attacks with gradually failing vision, and at the end of three months the child was blind. Walking was normal until fourteen days before death. Hearing, speech and intelligence were normal until the onset of the final pressure signs, which commenced ten days before death. Post mortem the cord was found to be ensheathed throughout its length by growth, which also invaded its posterior aspect. The growth extended on to the nerve-roots and there were many growths on the cauda equina. It extended outside the spinal canal along the root of the lumbar plexus. The Gasserian ganglion

and the ganglia of the ninth and tenth cranial nerves were much enlarged, and the seventh and eighth nerves were thickened by an extension of the growth. Multiple small growths were present over the base of the brain arising from the pia arachnoid. Hydrocephalus was marked. The primary growth was in the cerebellum, and had invaded, distended, and completely filled the fourth ventricle; it had also blocked the iter, and then was continued as a filmy gelatinous covering over the ependyma of the third ventricle. Microscopically, the growth was a mixed-celled (chiefly small-celled) sarcoma, and its method of spread was due to "infection" of the cerebro-spinal fluid.

Hair-ball removed from the Stomach of a Child.—Mr. Seymour G. Barling.—The specimen consisted of a felted mass of hair and string, and presented an exact cast of the stomach, showing the pyloric canal, pyloric antrum, and fundus. It was removed from a girl, aged 7 years, of normal intelligence, who for some days before operation had suffered from pain in the upper abdomen and vomiting. On examination a tumour exactly resembling the shape of the stomach presented itself in the epigastrium and moved up and down on respiration. The shape of the tumour, together with a history of hair-biting extending over several years, and the occasional passage of string, tape, etc., in the motions, led to a direct diagnosis by Lieutenant J. L. Ritchie, R.A.M C., by whom the case was first seen. On gastrotomy being performed the specimen was easily removed, and the patient made a satisfactory recovery.

SECTION OF OPHTHALMOLOGY.

March the 5th, 1913.

Precocious Development in a Boy.—Dr. F. J. Poynton.—Dr. Poynton has had this patient under his observation since he was aged $2\frac{1}{2}$. He is now aged 8 years, and the entire absence of any evidence of suprarenal tumour and the boy's facies led him to show the case for diagnosis. The first child of healthy but small parents. He was healthy except for a "feverish cold" in the first year. After this he began to grow very fast. Sexual development and pubic hairs were developed at one year. At the age of 2 years 6 months his weight was 3 st. 1 lb.; circumference of head, 20 in.; thorax, $22\frac{1}{2}$ in.; abdomen, 23 in.; height, 3 ft. 5 in. At the age of 3 years 4 months his weight was 3 st. $13\frac{3}{4}$ lb.; his height, 3 ft. 8 in. He had a deep voice, was emotional, but had shown no sexual propensities. The ossification of his carpus corresponded to a boy aged thirteen.

Since that time this remarkable development has hardly kept pace with the earlier years, but the boy has now a well-marked moustache and a downy beard and whiskers. His frame is almost paternal in its back view, both in breadth and depth. His legs are not in accord with the upper part of his frame, but are comparatively small. He is a quiet, modest boy, not over sharp, but quite sensible, and good-tempered. He has never had a day's serious illness. X rays showed advanced ossification. His heavy features are rather suggestive of pituitary affection. The blood-pressure has not been remarkable. His sight is good. The sexual development has been a feature of the case, but there has not been any trouble with the boy. He is remarkably strong for his age. Present weight, 7st.; present height, 4 ft. 9 in.

Philadelphia Pediatric Society.

February the 11th, 1913, Theodore Le Boutillier, M.D., President.

An Albino Family.—Dr. Frank Crozer Knowles presented a family consisting of seven boys, five of them normal and three of typical albino type. The eldest, third, fifth and seventh boys have blue eyes, are intelligent and normal. The second, fourth and sixth sons have pink eyes and all the associated symptoms of albinism. The parents are Italians, with blue eyes and rosy cheeks, the picture of good health. No cases of this affection could be determined among the antecedents. While two of the albino boys exhibited normal intellect, the third was somewhat of the cretin type. Photophobia and nystagmus were marked in all three boys.

Adrenal Hæmorrhage in the Newborn.—Drs. C. B. Farr and R. A. Glenn (by invitation) showed a specimen of adrenal hæmorrhage in a newborn infant into the peritoneal cavity, from the service of Dr. W. R. Nicholson at the Presbyterian Hospital. The baby's mother was a primipara but labour was not unduly prolonged or abnormal. No instruments were used and there is no record of any fall or injury after birth. At birth the baby had no deformities and weighed 9 lb. 1¼ oz. The third day the child was found dead, no symptoms having been noted except a rise in temperature to 99·2° F. on the day he died. The body appeared to be that of a healthy, well-developed, well-nourished baby. There was moderate pallor. The cord had not separated but appeared normal. Thoracic organs were normal except the right lung, which showed congestion at the base. The foramen ovale was patulous and the thymus large. The peritoneal cavity contained a considerable quantity of free clotted blood, confined largely to the right side. About the right kidney was extensive retroperitoneal hæmorrhage, bulging forward the peritoneum and separating the layers of the mesocolon. At the most prominent part was a short tear from which the intra-peritoneal hæmorrhage had come. On section, kidney and adrenal were found surrounded by laminated clots with soft and recent clots near the periphery and in the region of the peritoneal tear. The kidney was not involved, but the adrenal seemed to be disintegrated. Microscopic sections showed the cortex well preserved, but the medulla destroyed by the extensive hæmorrhage. There were many dark granules, evidently pigment, as described by Hamill ('Arch. of Pediat.,' 1901, xviii, pp. 81 and 161). Hamill collected 90 cases, including his own, while Arnaud ('Arch. gén. de Med.,' 1900, ii, p. 5) collected 80. In comparatively few of these was there intra-peritoneal hæmorrhage. Hamill reports seven cases in which there was rupture of the sac and extensive hæmorrhage into the general peritoneum, and refers to several others in which there was slight leakage into the peritoneum. Arnaud found that capsular hæmorrhage caused no symptoms in more than half of the cases. In many it was a chance finding; rarely did it give rise to demonstrable abdominal tumours. The remaining cases fell into three categories: those with peritoneal symptoms; those with symptoms suggestive of capsular insufficiency, typical Addison's disease rarely, if ever, developing; and finally, those with symptoms referable to involvement of the abdominal sympathetic. The latter type Arnaud

considers most common. Hamill thought that hæmorrhage of this character occurring before or during labour was commonly traumatic; after birth, either before or after separation of the cord, infectious. It is generally conceded that the adrenal vessels are particularly frail and poorly supported. At times the vessel-walls may be the seat of local disease in addition. The exciting causes may be various but fall under the headings of direct trauma and congestion, the latter as a rule passive, due to pressure on the larger veins. There was no evidence of infection in the present case unless the slight rise of temperature be regarded as such. No cultures were taken.

Dr. S. McC. Hamill referred to the case which he had reported to the American Pediatric Society in 1900. Hæmorrhage of lesser degree was a very common finding in autopsies among newborn infants, especially in those infants dying of the so-called infections of the newborn. There had been, however, but a limited number of cases of rupture into the peritoneal cavity reported up to the time that this case was reported—probably six or eight. In his paper Dr. Hamill had laid much emphasis upon the infectious origin of many of these cases, but in the light of more recent investigation, it would seem that a larger percentage of those cases are due to other causes than he had been willing to admit. Dr. Hamill presented the drawing made from the specimen in his case, which was practically identical in appearance with the specimen which Dr. Farr had exhibited.

Dr. J. P. Crozer Griffith recalled a case in which a baby about two days old had died suddenly, and on autopsy the peritoneal cavity was found filled with blood which came from rupture of the suprarenal body. There had been no fever or other evidence of sepsis. The most frequent form of hæmorrhage in the newborn dependent upon trauma or some other unexplained cause would seem to be intra-cranial, while the next most frequent is from the suprarenal body. In the hæmorrhagic disease of the newborn, the hæmorrhage from this body is of an entirely different nature.

Gastric Retention and Intestinal Stasis in Infancy.—Dr. Nathaniel Ginsburg presented about thirty bodies of newborn infants, in which the intestines had been dissected cut, showing some possible anatomic causes of gastric retention and intestinal stasis. He demonstrated the specimens in detail. An elongated sigmoid was found in all these infants. It seemed possible, when there was no palpable pyloric stenosis, that the obstruction might be at the duodeno-jejunal angle, since Lane had shown conclusively that angulation did occur at the duodeno-jejunal junction. Every large sigmoid was not, however, abnormal. In many adults the elongated sigmoid was found persistent.

Dr. D. J. Milton Miller said that he had always believed that when an abnormally long sigmoid existed at birth, the child later grew up to it and constipation was then relieved. But Dr. Ginsburg's demonstration shows that this may not always occur.

Dr. Griffith said that when pyloric stenosis first came into prominence, many physicians disputed its existence on the ground that at autopsies the pylorus was naturally thickened from agonal contraction. More recently this possibility had been overlooked or disputed. Dr. Ginsburg's interesting observations would appear to raise the question again, at least as applied to some cases. Some of the cases supposed to be pyloric stenosis might be proved to be a condition secondary to obstruction at the duodeno-jejunal angle. At least one of the specimens shown illustrated the possibility of dilatation of the duodenum due to constriction at this point. The adminis-

tration of bismuth ought to show, in such a case, whether the obstruction was actually at the pylorus.

Cholecystitis due to Primary Infection by the Typhoid Bacillus.—Dr. Harry Lowenburg reported a case of cholecystitis due to primary infection of the gall-bladder by the typhoid bacillus in a boy, aged 3 years. The chief complaint was constipation and fever followed by diarrhœa. He had been sick for two weeks before admission to Mt. Sinai Hospital. Death occurred two weeks later.

Dr. Lowenburg also reported a case of fatal streptococcic arthritis complicating lobar pneumonia in a baby aged 14 months.

Can Teething produce Morbid Symptoms?—Dr. D. J. Milton Miller, of Atlantic City, read this paper. The fact that primary dentition is often associated with local and constitutional disturbances cannot be disputed. These disturbances are repeated with each incoming tooth so regularly that we cannot escape the inference that the two phenomena are connected. Scientific methods have curtailed the dentition ailments materially. But it should not be forgotten that pregnancy, paturition and the menopause are attended by discomfort and even grave deviations from the normal. There can be no question of pressure, since the teeth have abundant room to emerge, meeting with no resistance from the soft structures above. The symptoms, then, must be attributed to reflex influence and to the conception that the delicate infantile organism reacts in manifest ways to a sensible irritation. May not a tender mouth, deranged digestion and dentition be expressions of a general hyperæsthesia of the alimentary tract due to the great activity of the vital processes during the dentition period? The uniform painlessness of the second dentition may be explained by affirming that the child is now too old to be affected by sensible irritation. Yet coryza may occur with each second tooth, and second dentition may be a contributing cause of chronic intestinal indigestion. In about one half of all infants observed, symptoms occurring during teething are not to be explained by any other discoverable cause than the teething. Among the local symptoms may be redness, stomatitis, excessive salivation, anorexia, restlessness, sleeplessness and irritability. Fever and disturbances of digestion may occur. Yet we must remember that all diseases in infancy demand prompt treatment, whether the child is teething or not. Lancing the gum often relieves in a surprising way the symptoms of morbid dentition.

Dr. Theodore Le Boutillier said that he had seen two infants in convulsions due to teething, in whom the convulsions ceased upon lancing the gum and that they did not return. In another case diarrhœa occurred in spite of correct feeding and seemed to be due to teething only; just as soon as the tooth erupted, diarrhœa disappeared. Many nervous conditions seemed to be induced by dentition. The correct time for lancing was when the gums were swollen and showed a tiny pearly spot. Relief was immediate. He had never had any infection follow. Teething causes many such reflex troubles and lancing is then indicated.

Dr. Griffith's views were of a very positive nature. When a young man he had been given a gum-lancet which he had at first used frequently. He had lost it some time ago and had never felt it necessary to replace it.

Société de Pédiatrie, Paris.

January the 14th, 1913. (*Bulletin No.* 1.)

Rare Urethral Malformation.—MM. Veau and Montet showed a child, aged 14 years, with hypospadias and complete integrity of the prepuce. Outwardly nothing could be seen, but on uncovering the glans it was seen to be spread out, a large urethra appearing at the bottom of an infundibulum. As there was no obstruction to the flow of urine no interference was considered necessary.

Prevention of Contagion in Home for Weakly Children at Médan.—M. Mery gave statistics for three years, which showed that the majority of deaths resulted from measles, and proposed a special method of isolation.

Dislocation of Patella.—Mme. Nageotte-Wilbouchewitch showed a girl, aged 15 years, who had dislocation of the patella and large effusion into the joint as the result of a slight blow. She had a marked laxity of all the ligaments.

Hypertrophic Warty Papillomata of Vulva; Good Effect of Radiotherapy.—M. Comby showed a child, aged 3 years, in whom large masses of growth disappeared after three applications of X rays. Wassermann reaction was positive. There were no gonococci.

The Value of Desiccated Milk.—MM. Variot, Zuber, Lavialle and Sédillot were of opinion that the use of desiccated milk did not give such satisfactory results as had been advanced by earlier observers. Administered under the most favourable circumstances it seemed less satisfactory than scalded homogenised milk, which served for comparison. The increase of weight was not so rapid even in the most favourable cases. On the other hand, out of fourteen children eight were quite incapable of assimilating it, and their weight became less. The claims put forward as to the possibility of restoring feeble or atrophic infants seemed not proven. The occurrence of diarrhœa in eight out of fourteen children compelled its discontinuance either wholly or temporarily. Six out of fourteen infants below the age of five months increased in weight for one or two months while on desiccated milk, but less than they did with scalded milk. Three children died of diarrhœa during the month of July.

Inefficacy of Serum-therapy per Rectum.—MM. Lesné and Dreyfus contended that their experiments proved that if microbic toxins can penetrate the rectal mucous membrane they are rendered harmless. In normal individuals with sound livers the possibility of an intoxication of intestinal origin by microbic toxins alone is very doubtful. The administration of anti-tetanic and anti-diphtheritic sera *per rectum* should be discontinued.

Vincent Dickinson.

HISTORICAL MEDICAL EXHIBITION, LONDON, 1913.

Among other historical medical objects of exceptional interest that have been secured for the Historical Medical Exhibition, organised by Mr. Henry S. Welcome, and which will be opened in London during the meeting of the International Medical Congress in the coming summer, are many personal relics of Dr. Edward Jenner, the discoverer of vaccination. These include the original lancets and scarifiers he employed during his first experiments, his case and account-books, his snuff-box, medicine chest, and many other interesting articles. A large collection of autograph letters of Jenner's, some of unique interest, have also been loaned, together with the armchair from his study, and in which he died. Other objects connected with the life of Jenner are also to be exhibited, including many valuable portraits of himself and family, painted at different periods, the illuminated addresses presented to him, together with the freedoms of the cities of London and Dublin, also medals, and other documents of special interest.

Concerning the history of anæsthesia, many interesting relics are to be exhibited, beginning with the original autograph journal and manuscripts of Henry Hill Hickman, F.R.C.S., the discoverer of the application of the principle of anæsthesia by inhalation for surgical operations, which he proved by actual experiments on animals in 1823. Personal relics of Sir James Simpson, and some of the earliest forms of apparatus for administering chloroform and ether, will constitute an exhibit of more than usual interest.

Those who may possess any objects of a similar character connected with the history of medicine and the allied sciences, and who would be willing to loan them, should communicate with the Secretary, 54a, Wigmore Street, London, W., who will be pleased to forward a complete illustrated catalogue to anyone interested.

Abstracts from Current Literature.

Medicine.

Reflexes in the fœtus (*'Rev. Neurolog.,'* 1912, II, *p.* 434).—**K. Krabbe** examined the reflexes in a fourth month female fœtus, who lived for half an hour after birth. It was 24 cm. long and showed active movements of the extremities. The heart was beating quickly, the eyes were closed, and there was no reaction to pin-pricks on the face. No masseteric nor pharyngeal reflex could be obtained. In the upper extremity no reflex could be got by percussion of the bones or tendons, but short and sharp movements of the muscles resulted from direct percussion. Direct percussion also produced contraction of the pectoralis major, which was also obtained by stroking the skin over the front of the chest. The abdominal reflexes were active, the knee- and ankle-jerks were absent, and no muscular contraction could be obtained by direct percussion. The plantar reflexes were flexor. Oppenheim's reflex was not obtained. There was no anal reflex. All the reflexes were equal on both sides. No macroscopical changes were found in the brain post mortem. J. D. Rolleston.

Care of premature infants (*'Arch. of Pediat.,'* 1912, XXIX, *p.* 438).—

R. Durham gives the following statistics from the records of the Sloane Maternity Hospital. In 2314 births there were 410 premature babies, of which 74 were stillborn. Of the remaining 336 cases, 85 were treated as infants at term, and 4 died; 145 were wrapped in cotton-wool and not placed in the incubator, and 12 died; 106 were treated in the incubator; in the first four days 29 died (6 being under seven months' gestation) and 77 survived. Of the latter, one third were known to be living after a period of from three months to three years; 5 of these babies weighed less than 3 lb.

REGINALD MILLER.

The infant pulmotor: an apparatus for artificial respiration on asphyxiated newly born infants (*'Amer. Journ. Obst.,'* 1913, LXVII, *p.* 255).—**J. C. Edgar** describes this instrument, with a diagram, the mechanism of which consists of forcing oxygen or atmospheric air into the lungs at the given pressure desired, and emptying the lungs of the bad air, which is expelled outside. This is done by means of two tubes terminating in a breathing mask fitted closely to the child's mouth, and attached to a cylinder of oxygen.

F. R. B. ATKINSON.

The use of the mucus extractor in asphyxia neonatorum (*'Austral. Med. Gaz.,'* 1912, XXXII, *p.* 528).—**H. B. Oxenham** recommends the use of this instrument in cases of stertor of the newly born.

F. R. B. ATKINSON.

Suffocation by mother's milk (*'Norsk Mag. f. Lægevid.,'* 1913, LXXV, *p.* 204).—**J. Hjort.**—A female infant, aged 8 days, became cyanosed and dyspnœic shortly after being put to the breast. Death took place in about twelve hours. Post mortem the trachea and bronchi to their finest divisions were found to be filled with milk. No similar case has been recorded.

J. D. ROLLESTON.

Stenosis of the bile-duct in the newly born (*'Monatsschr. f. Kinderheilk.,'* 1912, XI, *p.* 294).—**K. Sugi** narrates the following result of a post-mortem examination on a child, aged 3 weeks: Suffusion of the skin, navel and pleura, with ecchymoses of the thymus, testicle, epicardium, and mucous membrane of the digestive tract, stenosis of the hepatic duct and of both of its chief branches. The stenosis was of an inflammatory nature and affected also the ductus choledochus. Lues was excluded and no cause could be found for the change.

F. R. B. ATKINSON.

Idiopathic icterus neonatorum (*'Thèses de Paris,'* 1912–13, *No.* 113).—**E. Bédier** examined thirty-seven cases at the Clinique Baudelocque and thirty-five normal infants. He found that multiparity, premature birth, and the weight of the child could not be regarded as ætiological factors of the icterus, which is due to a special fragility of the red cells in the newborn.

J. D. ROLLESTON.

Fatal jaundice of the newly born (*'Austral. Med. Journ.,'* 1912, I, *p.* 667).—**W. Summons** describes the case of a child who died on the seventh day after birth from the above condition, which also had been the cause of death in two other children shortly after birth in the same family.

F. R. B. ATKINSON.

Rectal muco-epithelial plugs and stenosis of the bowel in the newly born (*'Jahrb. f. Kinderheilk.,'* 1912, LXXVI, *p.* 678).—**Trumpp** states that his case, occurring in a child, aged 2½ days, is only the fifth published in the literature. Section showed stenosis of the upper part of the jejunum with marked dilatation of the duodenum and muscular hypertrophy above the stenosis, a second stenosis 4–5 cm. below the first, collapse of the small and large intestine, and persistence of the whole meso-colon and meso-duodenum. F. R. B. ATKINSON.

A case of doubling of the great intestine (*'Glasg. Med. Journ.,'* 1912, II, *p.* 431).—**A. Blair Aitken** reports this case in a female infant, the subject of a large congenital umbilical hernia. The infant was seen seventeen hours after birth, but was not considered a fit subject for operation, and death took place on the following day. There was no duplication of other organs nor was any skeletal abnormality noted. J. ALLAN.

Hæmorrhagic diseases of the newborn (*'Med. Review, St. Louis,'* 1913, LXII, *p.* 6).—**A. S. Pike.**—A male infant, breast-fed, had considerable hæmaturia on the third day of life. He was then given modified cow's milk in the hope of saving strength necessary for nursing, for which he was afterwards too weak. The next day there were repeated hæmorrhages from the penis, rectum, nose and mouth, accompanied by screaming and convulsions. Two thirds of a suprarenal tablet was given two-hourly, followed later in the day by calc. chlor. gr. iij. as well. The hæmorrhages stopped the following day and complete recovery took place. J. D. ROLLESTON.

Suprarenal hæmatoma in a newborn child (*'Jahrb. f. Kinderheilk.,'* 1913, LXXVII, *p.* 88).—**A. v. Reuss.**—At the end of the second day of life the child showed fever, marked pallor and cyanosis, and refused nourishment. Death took place on the sixth day after repeated vomiting. The necropsy showed a hæmatoma the size of a hen's egg in the right suprarenal, that had ruptured into the retro-peritoneal connective tissue and infiltrated the whole mesentery. There was a small hæmatoma in the left suprarenal. Suprarenal hæmatomata are probably not so rare as is thought. Trauma at birth is only a predisposing cause. The disease should be ranked among the hæmorrhagic diatheses of the newborn. J. D. ROLLESTON.

Spontaneous recovery from hæmorrhagic disease of the newborn (*'Jahrb. f. Kinderheilk.,'* 1913, LXXVII, *p.* 89).—**A. v. Reuss.**—The child showed at birth a large swelling over the left parietal bone. On the third day there were deep blue coloration of the skin of the pinnæ and eyelid, epistaxis, two dark stools and deep icterus. The general condition was good. The hæmorrhages stopped at the end of the first week.
J. D. ROLLESTON.

Hæmophilia neonatorum in a family of four infants (*'Arch. of Pediat.,'* 1912, XXIX, *p.* 761).—**R. L. Pitfield.**—All these male infants were icteric at birth and shortly afterwards. The first vomited dark material and passed tarry stools soon after birth but finally recovered. The second had subdural hæmorrhages, manifested by convulsions and coma. Recovery took place, but at five years the child could hardly walk, and was mentally defective. The third child died from subdural hæmorrhages, verified post mortem, after living seventy-two hours. The fourth child showed minute petechiæ when twenty-

four hours old: 72 c.c. of human blood-serum were injected subcutaneously in doses of 4–15 c.c.; the petechiæ disappeared and this child recovered.
J. D. Rolleston.

Blood transfusion for hæmorrhagic diseases of the newborn (*'Boston Med. and Surg. Journ.,'* 1912, I, *p.* 627).—**Beth Vincent** records four successful cases in which the radial artery of the father, who acted as donor, was connected by a coated glass tube with the external jugular vein of the child. He had previously (*'Amer. Journ. Dis. Child.,'* 1911, I, *p.* 376) published three cases in which the donor's radial artery had been connected with the recipient's femoral vein, but the latter's awkward position, depth, and numerous branches made it less suitable than the external jugular vein. J. D. Rolleston.

A case of allergy to common foods (*'Amer. Journ. Dis. Child.,'* 1912, III, *p.* 341).—**O. M. Schloss.**—In a boy, now aged 8 years, marked urticaria was caused by the ingestion of eggs, almonds, and oatmeal. The idiosyncrasy to eggs was not congenital, but was acquired some time between ten days and fourteen months. Symptoms due to the ingestion of oats appeared some time after the child had first eaten oatmeal, when he was twenty-two months old. The idiosyncrasy to almonds was manifested the first time the food was taken, at the age of six years. Cutaneous inoculation of these and certain allied food substances produced an urticarial wheal at the site of inoculation. The cutaneous reaction was produced only by the protein constituents of eggs, almonds and oats. Some of the active proteins caused urticaria by mere contact with the unbroken skin. It was possible passively to sensitise guinea-pigs to ovo-mucoid (one of the active proteins from eggs) by intraperitoneal injections of the patient's serum. By giving ovo-mucoid in gradually increasing doses the patient became immune to eggs. At the same time immunity to oatmeal and an apparently decreased sensibility to almonds occurred. J. D. Rolleston.

Alimentary anaphylaxis to eggs (*'Arch. de méd. des enf.,'* 1913, XVI, *p.* 81).—**E. Lesné** and **Ch. Richet,** fils, consider the subject, as follows. *Ætiology:* Anaphylaxis may occur at all ages, but is more common in earlier years. It exists for raw, slightly cooked, or hard-boiled eggs, but it is less marked after the latter. The white or the yolk may give rise to the symptoms. Many members of one family may be affected. *Symptoms:* They may be slight, and manifest themselves by cutaneous troubles, especially urticaria and partial œdema, or severe, associated with gastro-intestinal affections, and give rise to the symptoms of cholera. *Prognosis:* This is always favourable. *Diagnosis:* The appearance is sudden, occurring immediately after the ingestion of a small amount of egg. The appearances are exactly similar to experimental anaphylaxis, and arise each time after an egg is taken. *Pathogeny:* This is the same as in all other cases of alimentary anaphylaxis, and is due to indigestion of the egg, a part of the antigen passing into the circulation. *Treatment:* This is chiefly preventive. A child, up to five years of age, should never take more than one egg a day. When the symptoms are acute, shock should be treated by stimulants and all eggs withheld. The treatment must be symptomatic. F. R. B. Atkinson.

A case of common salt poisoning (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 1290).—**O. H. Campbell** records a fatal case in a boy, aged 5 years, whose mother had given him an enema containing a pound of salt in a quart

of water. Five to ten minutes after the enema the child had severe headache, vomiting and purging, and within thirty minutes became unconscious and had a series of convulsions. An hour before death, which occurred five hours after the enema had been given, the temperature was 104·6° F. and the pulse about 200. No necropsy. J. D. Rolleston.

Sodium chloride fever (*'Monatsschr. f. Kinderheilk.,'* 1912, xi, *p.* 387). —**B. Bendix** and **J. Bergmann** come to the following conclusions: (1) A solution of sodium chloride (0·75 per cent.), prepared with every precaution from fresh distilled water, does not produce fever. (2) Solutions prepared by the chemist from distilled water, left for a longer or shorter time, can produce fever when injected hypodermically. (3) Solutions carefully prepared in the laboratory, but preserved in an open bowl without any care regarding the temperature of the room, may give the same result, but if preserved at the temperature of the room and kept sealed usually produce no fever, but this cannot be guaranteed. (4) Only pure solutions free from all bacteria should be used for children, and the same applies to infusions for therapeutic purposes. (5) A special distillation apparatus should exist in every children's hospital. F. R. B. Atkinson.

The so-called sodium chloride fever (*'Monatsschr. f. Kinderheilk.,'* 1912, xi, *p.* 125).—**S. Samelson,** from his experiments on sixteen children in the first three months of life, concedes that there is no such thing as sodium chloride fever after subcutaneous injections of sodium chloride in young infants. The phenomenon so described is due, not to the sodium chloride, but to the bacterial toxins in the salt solution. After their removal the febrile reaction disappears. J. D. Rolleston.

Bismuth poisoning (*'Amer. Journ. Med. Sci.,'* 1912, cxliv, *p.* 647).— **L. M. Warfield.**—A girl, aged 9 years, suffering from spinal tuberculosis, had a sinus caused by an ilio-psoas abscess injected with 2 oz. of bismuth subnitrate in November, 1910. The opening promptly closed, and no bismuth was subsequently extruded. Two weeks later a black line was noticed on the gum margin. On admission to hospital in September, 1911, the right edge of the tongue was extensively ulcerated and covered with a white membrane, and similar plaques were present on the right buccal mucosa. The breath was very fœtid. X rays showed the presence of the bismuth in the lumbar muscles. Gradual improvement took place, and when the child was discharged five months after admission the ulceration had cleared up, but the line on the gums was still present. J. D. Rolleston.

Death from strychnine poisoning after snake-bite (*'Austral. Med. Gaz.,'* 1912, xxxii, *p.* 189).—**G. Croll.**—A boy, aged 4 years, was bitten by a death adder at 2 p.m., but was not seen by a medical man until 11.45 p.m. During that time he was given $\frac{3}{20}$ gr. of strychnine. At 11.45 p.m. the child's condition was good. An hour later typical signs of strychnine poisoning occurred and death took place at 1.30 a.m. F. R. B. Atkinson.

Occurrence of acute pneumonia during treatment with arsenic (*'Brit. Med. Journ.,'* 1913, i, *p.* 337).—**F. Parkes Weber** records five cases in children aged from 4 to 15 years who suddenly developed pneumonia while undergoing arsenical treatment for lymphadenoma, chorea or a lichenoid eruption. Two of the lymphadenoma patients also had arsenical herpes

zoster: In all there was a rapid recovery from the pneumonia. The writer thinks that arsenic may predispose to an attack of pneumonia just as it does to herpes zoster. J. D. Rolleston.

Fatal poisoning by tobacco (*'Cleveland Med. Journ.,'* 1913, xii, *p.* 130). —**E. C. Garvin.**—A girl, aged 6½ years, suffering from pin-worms, was given a rectal injection by her mother of a pint of water in which were dissolved 1½ teaspoonfuls of tobacco. Faintness, nausea and vomiting ensued at once, and part of the injection was expelled. Within a quarter of an hour convulsions set in and lasted twenty minutes. Death took place forty-five minutes after the injection before any treatment had been given.

J. D. Rolleston.

Intoxication due to paratyphoid B bacillus (*'Bull. et mém. Soc. méd. Hôp. de Paris,'* 1912, xxxiv, *p.* 752).—**H. Triboulet, R. Debré** and **J. Paraf.** —A boy, aged 4 years, and his sister, aged 6 years, were admitted to hospital in a condition of collapse with diarrhœa and vomiting. The father, mother and grandmother had also some digestive disturbance, but of slight degree. It was found that the symptoms had followed a meal of black-pudding, being most marked in the case of the boy, who had eaten the pudding exclusively. The paratyphoid B bacillus was isolated from the fæces and urine of the boy and the fæces of the girl. Their blood-cultures were negative. Cultures and inoculations of the pudding proved negative, probably only a part of it being infected. J. D. Rolleston.

The ætiology of Little's disease (*'Gaz. des Hôp.,'* 1912, lxxxv, *p.* 522). —**L. Babonneix** records a case to show that in addition to obstetrical trauma and syphilis other infections may enter into the ætiology of Little's disease. A previously healthy woman developed mumps in the fifth month of pregnancy. The child, who was born at full term and with an easy labour, presented typical symptoms of Little's disease, but the symptoms subsequently disappeared and the child learnt to walk and talk at the usual period. J. D. Rolleston.

The atrophic form of Little's paralysis (*'Journ. Amer. Med. Assoc.,'* 1912, lix, *p.* 175).—**E. A. Rich** describes two cases of this form of the disease, which is characterised by a lack of development accompanied by an atrophy of all the parts of the body except the bony skeleton. Pathological anatomy reveals a lower cortical involvement than the ordinary type, involving the pituitary body and the pons, but not so much the cranial vessels. The prognosis is more grave than in the usual type.

F. R. B. Atkinson.

Pathological anatomy of cerebral diplegia in children (*'Jahrb. f. Kinderheilk.,'* 1912, lxxvi, p. 1).—**S. Miura** describes two cases of this condition with the pathological findings and believes that the vascular theory best explains the pathogenesis of the disease. He believes that the traumatic factor of birth is the cause of the hæmorrhage.

F. R. B. Atkinson.

Total softening of both cerebral hemispheres in a child five months of age (*'Jahrb. f. Kinderheilk.,'* 1912, lxxvi, *p.* 552).—**E. Meier** describes the case of a healthy child of healthy parents, in whom there were no morbid

symptoms up to eight weeks after birth. In the ninth week vomiting and convulsions occurred, and at the fifth month a left-sided empyema developed. Post-mortem examination revealed destruction of the white matter of both hemispheres. The author finds no case in the literature similar to his own, neither can he form any conclusion for the reason of its appearance. F. R. B. Atkinson.

Porencephaly (*'Brit. Med. Journ.,'* 1912, II, p. 973).—**R. Eager** records a case in a boy, aged 7 years. The cranium contained about five pints of clear watery fluid. The remnants of brain structure were lying on the base of the skull in a flattened condition and only weighed $13\frac{1}{4}$ ounces. The right lung and pleura and the spleen showed tuberculous foci, and there was considerable enlargement of the mesenteric glands. J. Allan.

Three cases of acute ataxia in children (*'Austr. Med. Gaz.,'* 1912, XXXII, *p.* 141).—**W. F. Litchfield** reports the following cases: (1) Marked ataxia of the cerebellar type in a girl, aged 17 months. The lesion was probably in the dentate nucleus. (2) Boy, aged 11 years. Cerebellar ataxia with increased knee-jerks. (3) Boy, aged $6\frac{1}{2}$ years, with continuous and universal chorea and ataxia. The lesion probably concerned the cerebello-rubro-spinal tract. F. R. B. Atkinson.

Ventricular hydrocephalus caused by a cerebral tumour (*'Arch. de méd. des enf.,'* 1912, XV, *p.* 527).—**J. Comby** describes a very rare case in a girl, aged 21 months, in whom post-mortem examination revealed an epithelioma at the posterior angle of the left lateral ventricle, and very dilated lateral ventricles. F. R. B. Atkinson.

A case of tubercle of the cerebellum; decompressive craniectomy; acute tubercular meningitis (*'Arch. de méd. des enf.,'* 1912, XV, *p.* 610).—**M. de Vaugiraux** describes this case in a girl, aged $9\frac{1}{2}$ years. Post-mortem examination revealed a tumour occupying nearly the whole of the left lobe of the cerebellum, which showed a caseous tubercle.
F. R. B. Atkinson.

Tumours of the cerebellum in children (*'Wien. klin. Rundsch.,'* 1912, XXVI, *pp.* 81, 100, 116).—**Velebil** recounts a case in a girl, aged 9 years, who was under observation for three and a half months. The chief symptoms were—three years previously spasm of the heart, for a year headaches, pains in the neck, tremors of the hands and feet, taciturnity, general apathy, drowsiness, slow, soft articulation, right facial paresis coming on gradually and motor ataxy of the right arm. The tone of the right arm and leg was somewhat diminished and later hemiparesis and atrophy occurred. Knee-jerks increased, gait ataxic, patient swaying to the left, later on the patient lost her equilibrium and could not sit. Double optic atrophy and amaurosis. The pupils finally did not react at all; ptosis of the right upper lid. Vomiting of cerebral type, constipation, and finally incontinence. The patient broke out into laughter from time to time. Post-mortem examination showed a solitary tubercle of the cerebellum in the vermis and left hemisphere, smaller isolated tubercles in the right frontal gyrus, and the cortex of the left gyrus hippocampi. The relations of the signs and symptoms to the post-mortem findings are discussed in detail and in connection with the literature of the subject. M. D. Eder.

Sarcoma of cerebellum in a boy (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 443).—**A. W. Hawley** and **J. B. Manning** record a case of round-celled sarcoma in a boy, aged 11 years, remarkable for the lack of localising signs. Cerebellar ataxia and hypotonus, if present, were masked by a general muscular exhaustion when the patient was first seen. Post mortem a soft disintegrating tumour the size of a hen's egg was found on section of the cerebellum, principally affecting the right side. The lateral ventricles were enormously dilated owing to obstruction of the aqueduct of Sylvius.

J. D. ROLLESTON.

Multiple sclerosis in a child, aged 2½ years (*'Jahrb. f. Kinderheilk.,'* 1913, LXXVII, *p.* 94).—**E. Nobel.**—The symptoms during life were epileptiform attacks, progressive dementia, and a suggestion of spastic and ataxic phenomena. The diagnosis ranged between diffuse sclerosis, diffuse glioma and multiple sclerosis. In favour of the last diagnosis was a temporal pallor of the right papilla and partial left optic atrophy. At the necropsy the brain and cord were normal macroscopically, but histological examination showed the existence of multiple sclerosis (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, *p.* 472). J. D. ROLLESTON.

Juvenile tabes (*'Amer. Journ. Dis. Child.,'* 1912, III, *p.* 236).—**G. E. Price** and **C. E. G. Shannon** record a case in a girl, aged 14 years, who had been suffering from failing vision for the last two years. Father's history negative; mother a drinker and led a dissolute life; there was no history of specific disease, but she had had one miscarriage. One brother and two sisters, all healthy. Since the onset the patient had had headache and at times complained of stabbing pains in the knees. For the last eighteen months she had had more or less urinary incontinence. Vision in each eye reduced to bare light-perception. Argyll-Robertson pupil was demonstrable. Double optic neuritis. Gait and stature normal. Slight ataxia of upper extremities. No knee or ankle jerks. Wassermann positive. Cerebro-spinal fluid: reactive alkaline, albumin increased, urea absent, no increase of lymphocytes, no bacteria. The authors review the literature, including the paper by Dr. Ernest Jones in THE BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, V, *p.* 131. J. D. ROLLESTON.

General paralysis in children (*'Rev. méd. de la Suisse rom.,'* 1912, XXXII, *p.* 742).—**F. Naville** records two cases: (1) Girl; onset of symptoms at 7½, died at 12½. No history or clinical evidence of inherited syphilis, but Wassermann positive in blood and cerebro-spinal fluid. (2) Boy; onset of symptoms at 6, death at 17. No history of syphilis. In both cases the diagnosis was confirmed by necropsy. J. D. ROLLESTON.

Surgery.

A fœtal monster (*'Semana Medica,'* 1912, XIX, *p.* 184).—**Bengolea** describes a notencephalic child to whom a primipara aged twenty-two gave birth. Following the rule it was a normal vertex presentation. The face was well developed, the eyes deviated upwards, and the deformed ears were almost horizontal. The frontal bone was quite absent, the parietals almost entirely, as well as a large part of the occipital bone. Instead of bone there was a soft vascular growth, caused by a proliferation of the conjunctiva due to a meningitis. The growth had invaded the cerebral matter and had finally destroyed the cranium. A Wassermann reaction on the mother proved negative. M. D. EDER.

A living monstrosity with oblique cleavage of the face (*'Jahrb. f. Kinderheilk.,'* 1912, LXXVI, *p.* 71).—**H. Preusse** describes a case of a boy, born at term, in whom, besides other deformities of the toes and fingers, there existed marked hydrocephalus and a completely open frontal suture extending from the root of the nose upwards, so that the median line deviated to the left. The left eye was represented by a pigment-spot in the lower third of the conjunctival sac. On both sides the jaw, gums and lips were cleft. The child died from pneumonia in the eighth week.

F. R. B. ATKINSON.

Multiple malformations in the newly born (*'L'Echo Méd. du Nord,'* 1912, XVI, *p.* 546).—**Leborgue** showed the cadaver of a child just born at the Soc. de Méd. du Dép. du Nord on October 25, 1912. The malformations were as follows: (*a*) Double club-foot; (*b*) spina bifida. (*c*) absence of various ribs; (*d*) osseous masses at the level of the fifth dorsal vertebra; (*e*) general ptosis of the abdominal viscera; (*f*) large left inguinal hernia, consisting of the major part of the small intestine, the cæcum and the appendix; (*g*) absence of ossification in many parts of the parietal and occipital bones.

F. R. B. ATKINSON.

A very rare teratological case (*'Arch. Brasil. de Med.,'* 1912, II, *p.* 439).—**C. Wallace.**—A female child, aged 18 months, was brought to hospital for an enormous tumour occupying the left fronto-parietal and facial regions. Circumference, 64 cm.; vertical diameter, 19 cm.; transverse, 13 cm.; antero-posterior, 22 cm.; weight about 3 kilos. The left eyeball was invisible and the ear rested on the shoulder. At the operation a dark turbid fluid like that of a hydro-hæmatocele was first evacuated, and then a rudimentary fœtus attached by a placenta to the inner wall of the tumour was extracted. Death from collapse occurred two hours after the operation. Details of the case are to be published by C. L. Kuhl in his thesis.

J. D. ROLLESTON.

Familial series of congenital malformations (*'Gaz. hebd. des Sci. méd. de Bordeaux,'* 1912, XXXIII, *p.* 548).—**Petit de la Villéon.**—The family consisted of a grandmother, mother, and three children. The grandmother, mother, daughter aged 6 years and son aged 3 years, had unilateral congenital dislocation of the hip, and a male infant aged 3 months had double pes equino-varus.

J. D. ROLLESTON.

Congenital absence of both clavicles (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 1192).—**M. Reichmann** records a case in a man, aged 32 years, with no family history of skeletal abnormalities. Both clavicles were shown by the X rays to be completely absent. A strong fibrous cord could be felt in their place. There was no malformation of the skull. Reichmann could find only twenty-two other cases on record. Usually both clavicles are missing. In only three cases was the defect one-sided. With the exception of two cases the defect was incomplete.

J. D. ROLLESTON.

Poly-, pero-, and syndactylism (*'Allg. Wien. med. Zeit.,'* 1912, LVII, *pp.* 399 and 409).—**Zilz** gives four skiagrams of the hands and feet of a child, aged 8 days, with deformities of the fingers. In either foot there was an extra toe. In the right hand there were five normal metacarpal bones. Apart from a fleshy appendix with an osseous core on the ulnar side there

was an extra finger between the middle and ring fingers; the first (rudimentary) phalanx was fused with the ring finger at its base. On the thenar eminence there was a slightly pedunculated nodule consisting of fat. On the left hand only the thumb, index and middle fingers were normally developed. In the place of the ring and little fingers there were three deformed fingers closely intergrown to a shapeless mass. There were fleshy masses on the thenar and hypothenar eminences. There were no instances of malformations in any other members of the family. "The majority of congenital pathological conditions are not inherited, but due to fœtal diseases or other circumstances of intra-uterine life." After a consideration of the various views held about such deformities, Zilz is inclined to regard these cases at all events as due to some primary backward variation of the sperm or unfertilised egg-cells. M. D. Eder.

Madelung's deformity corrected by osteotomy (*'Med. Record,'* 1912, II, *p.* 752).—**H. L. Taylor** records two cases in girls, aged 13 and 15 years, in whom the deformity in each case had started about two years previously. Cuneiform osteotomy was performed in the first case with excellent results. Progressive curvature of the radius was first described by Madelung in 1878, who called it spontaneous subluxation of the hand forwards. The deformity comes on slowly at or just before puberty, being probably associated with the physical softness and laxity of the tissues at that period. Of 64 cases collected by Stetten (*'Surg. Gyn. and Obst.,'* 1909, VIII, *p.* 4), 55 were females, 8 males, and in one the sex was not stated. In forty-three the deformity was bilateral, in twenty unilateral and in one uncertain. X rays showed the radius bowed with its concavity to the plantar aspect, carrying the carpus and hand with it; the ulna does not follow, but projects strongly backwards. Local pain, stiffness and weakness are often present. Diagnosis can be made by the history and X-rays from old fractures or dislocations near the wrist, or from congenital dislocation of the ulna backward without curvature of the radius. J. D. Rolleston.

A rare combination of three congenital anomalies in a child: urachus fistula, umbilical hernia and cryptorchism (*'Arch f. Kinderheilk.,'* 1912, LIX, *p.* 233).—**D. Lebedev** describes this case in a child aged 12 months. Fistula of the urachus has only been found in fifty cases as far as is at present known. It is more frequent in males than females, and shows itself by an opening in the umbilical scar from which urine flows. The diagnosis is made by an examination of the fluid, which gives a positive murexide reaction. F. R. B. Atkinson.

Fissure of the lower part of the bladder; inversion; strangulation (*'Journ. d'Urol. méd. et chir.,'* 1913, III, *p.* 25).—**G. Houzel** describes the case of a female child aged 13 months, with the above malformation. The bladder, which protruded below the pubis and above the vagina, was returned and the fissure sutured. The child made a good recovery. The author describes the only four other cases he has found in the literature.
F. R. B. Atkinson.

Perinæal testicular ectopia with strangulated inguinal hernia (*'Arch. de med. des enf.,'* 1913, XVI, *p.* 37).—**R. Frânçais.**—The child was aged 6 weeks, and was cured by a radical cure and reposition of the testicle.
F. R. B. Atkinson.

Dystopia of the internal genitals in young girls (*'Jahrb. f. Kinderheilk.,'* 1912, LXXVI, *p.* 568).—**J. Vas,** after considering some of the literature, comes to the conclusion that the condition is more common than is supposed. He believes the herniæ occur immediately after birth or in the first years. Among eight cases, two manifested appearances of strangulation. Vas thinks that the presence of a hernia directly after birth, the similarity of its form and consistence to the ovary, difficulty of reposition and tendency to strangulation should draw the attention to the possibility of dystopia of the internal genital organs. F. R. B. ATKINSON.

Torticollis (*'Post-Graduate,'* 1912, XXVII, *p.* 575).—**C. Ogilvy**.—The congenital cases are due to shortening of the sterno-mastoid. In very early cases manipulation may overcome the deformity, but after a year it is useless. Massage and mechanical treatment are of no value. Subcutaneous tenotomy should never be done, owing to the danger of injuring subjacent structures as the carotid artery, jugular vein, and pneumogastric nerve, and because it is necessary to cut the sheath of the tendon posteriorly as well as anteriorly. The open operation is strongly recommended, followed by forcible manipulation to correct the deformity, and the correct position must be kept by a plaster-of-Paris dressing encircling the head, including the neck and thorax. This dressing is heavy, and may be replaced by a large wad of gauze over the affected side of the neck, wound round with a bandage applied in the direction of the correction of the deformity. At the end of a week a tighter bandage may be applied. From the fifth to the tenth week the patient may be extended for five minutes twice a week.

J. PORTER PARKINSON.

Torticollis and congenital dislocation of the hip (*'Gaz. hebd. des Sci. med. de Bordeaux,'* 1912, XXXIII, *p.* 473).—**Codet-Boisse** describes a case of 8 years of age cured of the above deformities. He considers that Couvelaire's theory best explains the condition of affairs, viz. a primary myositis of the sterno-cleido-mastoid causing rupture of the fibres, and likewise a myositis of the femoral muscles permitting of the dislocation of the hip.

F. R. B. ATKINSON.

A new symptom in congenital dislocation of the hip (*'Journ. de Méd. de Paris,'* 1912, XXXII, *p.* 27).—**Savariaud** attaches much importance to the great increase of shortening which appears on flexing the thighs, when the obvious shortening of the affected leg is considerably increased. The method of examination is as follows: Lay the child flat on its back with both legs extended; notice the apparent shortening on the affected side; then make the child sit up, keeping the legs extended at the knees, the apparent shortening will appear to be increased. This sign is nearly always present, can be produced without any complicated or painful procedure, and so is of much clinical value. J. PORTER PARKINSON.

Bow-legs in small children (*'Practitioner,'* 1913, XC, *p.* 431).—**P. B. Roth** divides the cases into mild, which are cured by suitable splints, and severe, which require division of the bones. He recommends manual osteoclasis in preference to osteotomy of the tibia and fracture of the fibula. The leg is broken by the hands over a suitable fulcrum, and then placed between two lateral splints. After recovery from the anæsthetic, ʒj of syrup of chloral or $\frac{1}{16}$ to $\frac{1}{12}$ gr. of morphia should be given to ease the severe pain.

F. R. B. ATKINSON.

The occurrence and ætiology of club-foot (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 1940).—**A. Ehrenfried** estimates that congenital talipes occurs approximately once in every thousand births, and in one tenth of all infants with congenital deformities. Of the two important types, equino-varus constitutes about 80 per cent. and calcaneo-varus 20 per cent. Forms which cannot be classified under one or the other of these divisions are rare. The fixed type of calcaneo-valgus is less common than the potential type. Equino-varus on one foot and calcaneo-valgus on the other is quite unusual. About 70 per cent. of the patients are male and 30 per cent. female; 55 per cent. are double, and 45 per cent. single. Of the single cases, 60 per cent. are right and 40 per cent. left. Club-foot is known to have appeared in near relatives in 5 per cent. About 33 per cent. of all the patients are first-born; in about 16 per cent. delivery is difficult; in 4 per cent. birth is premature and in 2 per cent. illegitimate. The condition appears in twins or triplets four times as often as in single pregnancies It is accompanied by other congenital deformities in 12 per cent. of all cases. There are three ætiological factors to be considered: Heredity, evident in 5 per cent.; early intra-uterine causes, depending on faulty nutrition from a diseased condition of the chorionic villi, evident in 10 per cent., and mechanical causes operating later in intra-uterine life, accounting probably for most of the remainder. In the last class poor hygiene of pregnancy and work during pregnancy are undoubtedly causal factors of considerable importance. T. R. WHIPHAM.

Hypertrophic pulmonary osteo-arthropathy in a child (*'Gazz. internaz. d. med. chir., etc.,'* 1913, *p.* 54).—**V. Fragale** records a case in a male child in whom the characteristic changes in the hands and feet came on after an attack of broncho-pneumonia complicated by empyema at the age of seventeen months, and became more marked until death occurred at the age of four years. Post mortem almost the whole left lung was found to be converted into a necrotic cavity with bronchiectasis and purulent bronchitis in the right lung. The pus contained diplo- and streptococci, but no tubercle bacilli. J. D. ROLLESTON.

Idiopathic psathyrosis (*'Deut. med. Woch.,'* 1912, XXXVIII, *p.* 1875). —**J. Lewy** records a case in a girl, aged 5½ years, the fifth child in a family of six children. Delivery was normal, but at birth she seems to have had intra-uterine fractures of both femora. Before the end of the second year she had a fracture of the left femur, and subsequently very slight injuries caused fresh fractures, the femora being broken five times in all and the bones of the legs four times. None of the other bones were affected. X rays showed that the femora had been broken in the upper third. Double coxa vara resulted. The bones of the thigh and legs were extremely bowed. Cuneiform osteotomy of the tibia was performed to remedy the deformity, but eight weeks afterwards another fracture occurred at the operation site. The child was treated for a long period with thyroid in tablets, but without success. J. D. ROLLESTON.

Bacterial origin of multiple exostoses (*'Rev. d'orthop.,'* 1912, XXIII, *p.* 193).—**Curtillet** describes in detail four cases of multiple exostoses in a family, three in the children and the other in the mother. In these, as in some other reported cases, the law of Bessel-Hagen that there is a direct proportion between the amount of bony shortening on the one hand and the

size and number of the exostoses on the other hand was contravened. It therefore follows that the bony change is not confined to the cartilaginous centres of growth, but also implicates the sub-periosteal tissues. In support of the view that this dystrophy is due to microbic influence several cases are quoted; in Lenormant's case the exostoses appeared during convalescence from a prolonged and severe illness, probably typhoid fever. In a patient under the author's observation the exostoses appeared during chronic poly-articular rheumatism. But the disease which is considered to be most important in the ætiology of multiple exostoses is tuberculosis; Pissavy found a family history of tuberculosis in 43 per cent. and a personal history in 40 per cent. of the cases of multiple exostoses.

H. D. Rolleston.

Simultaneous fracture of the neck of both femora; double trochanteric coxa vara; reduction by manipulation: restitutio ad integrum of the right hip; coxa vara to 90° of the left, complicated secondarily by coxa vara cervicalis (*'Journ. de méd. de Bordeaux,'* 1913, xliii, *p.* 67).—**H. L. Rocher** describes the case of a boy, aged 9 years, who fell from a height of twelve metres. Radiography at various times showed the above lesions.

F. R. B. Atkinson.

Fracture of the skull with depression in a child aged 14 years cured by operation (*'Journ. de Méd. de Bordeaux,'* 1912, xlii, *p.* 637).—**Codet-Boisse.**—The fracture extended from the summit of the cranium to within a finger's breadth of the bridge of the nose. Four or five depressed fragments of bone were removed; the wound healed by first intention.

F. R. B. Atkinson.

Fractured skull, with ruptured middle meningeal artery; operation, recovery (*'Austral. Med. Gaz.,'* 1912, xxxii, *p.* 190).—**O. Smithson.**—A boy, aged 11 years, fell down an embankment and was found unconscious. Consciousness returned in a quarter of an hour, but twelve hours afterwards he complained of violent pain in the head, and he relapsed into unconsciousness with a temperature of 101° F., a pulse of 18, and proptosis of the right eye with widely dilated pupils. Operation revealed a transverse fracture of the base of the skull and rupture of the middle meningeal artery. The artery could not be ligatured; a plug was therefore inserted and the wound closed. Recovery was uninterrupted.

F. R. B. Atkinson.

Two cases of poly-articular tubercular rheumatism with vertebral localisations: acute cervical arthritis, followed in the one by pathological luxation, and in the other by Pott's disease (*'Rev. d'Orthopédie,'* 1911, xxii, *p.* 385).—**Curtillet** and **P. Lombard.**—(1) Girl, aged 12 years; (2) girl, aged 8 years. In the former case there was slight luxation anteriorly of the atlas on the axis vertebra.

F. R. B. Atkinson.

Suppurative arthritis in the infant (*'Arch. prov. de Chir.,'* 1912, xxi, *p.* 457).—**G. Houzel** records three personal cases of mono-articular streptococcal arthritis of the elbow, shoulder, and hip in infants aged 11 months, 2½ months, and 10 months respectively. The first recovered, the other two died. The following *classification* is adopted, with illustrative cases from the literature; (1) Infection *in utero;* (2) infection of puerperal origin;

(3) infection of umbilical origin; (4) infection from purulent ophthalmia; (5) infection from suppurative mastitis; (6) infection from an eruption or skin wound; (7) infection of alimentary origin—(*a*) dental, (*b*) buccal or gastro-intestinal; (8) infection from the respiratory tract; (9) infection due to general diseases, *e.g.* rickets, whooping-cough, influenza. *Pathogeny.*—The majority of cases of suppurative arthritis in infants are of osteomyelitic origin, but a considerable number are due to direct infection of the blood. *Symtomatology.*—The onset is sudden and violent with some constitutional disturbance and high temperature. There are intense pain, deformity, and œdematous swelling of the joint with well-marked superficial venous circulation. *Diagnosis.*—The only condition likely to be mistaken for suppurative arthritis in infants is Parrot's pseudo-paralysis, which is distinguished by absence of pyrexia and signs of inflammation in the joint, and by the presence of heredo-syphilitic stigmata. The *prognosis* is grave, death taking place unless surgical treatment be adopted. The outlook is made worse by complications, *e.g.* broncho-pneumonia and metastatic abscesses in the liver, spleen, kidneys, or bone-marrow. The only *treatment* is immediate arthrotomy. J. D. Rolleston.

A case of pneumotomy for foreign body (*'Lancet,'* 1913, I, *p.* 92).—**T. H. Kelcock.**—A child aged 4½ years swallowed a shawl pin about two inches long, which could not be removed through a bronchoscope, or through a tracheotomy wound. Recourse was had to pneumotomy and the pin removed. Recovery ensued. F. R. B. Atkinson.

Multiple mesenteric chylous cysts (*'Hospitalstidende,'* 1912, LV, *p.* 1525).—**K. Poulsen.**—A girl, aged 7 years, who had had frequent attacks of headache, vomiting, and abdominal pain in the course of the last six months, was admitted to hospital as a case of colitis. Symptoms of peritonitis occurred and laparotomy was performed. Diffuse purulent peritonitis was present, and several cysts which apparently arose from a section of the small intestine were found. Volvulus had occurred with resulting gangrene and perforation. Resection and end-to-end anastomosis were performed, and complete recovery took place. Subsequent examination showed that the cysts contained chyle and arose from the mesentery, from which they had grown into the ileum between the serous and muscular coats. Poulsen could find no similar case in the literature. J. D. Rolleston.

A case of splenectomy (*'Liverpool Med. Chir. Journ.,'* 1912, XXVII, *p.* 389).—**R. E. Kelly.**—A boy, aged 9 years, was run over by a motor-car. On admission to hospital he looked ill and complained of abdominal pain, but there was no bruising about the abdomen. On laparotomy the pelvis was found to be filled with clotted blood. The spleen was extensively lacerated, the posterior inferior angle being entirely separated from the main portion. Recovery was uneventful, except for sepsis in the transfusion wound made in the thigh. J. D. Rolleston.

The administration of chloroform in children (*'Journ de Méd. de Paris,'* 1912, XXXII, *p.* 617).—**Savariaud** considers this anæsthetic is best administered drop by drop on a thick compress, careful attention being paid to the respiration and colour of the skin. A livid condition of the latter is nearly always due to blockage of the pharynx by the tongue, which should be drawn forward, and in serious cases artificial respiration and rhythmic traction of the tongue should be performed. The author has only seen one death in twenty years. F. R. B. Atkinson.

Reviews.

DISEASES OF CHILDREN. By B. K. RACHFORD, M.D., Professor of Diseases of Children, Ohio-Miami Medical College, University of Cincinnati, etc. New York and London: D. Appleton & Co., 1912. Pp. 737. Price 25s. net.

DR. RACHFORD'S book deserves to take a high place in the literature on children's diseases. It is a complete and systematic treatise, written by a man of wide experience, whose individuality is evident throughout its pages. The opening chapters, which are concerned with the general hygiene of infancy and childhood, growth and development, the examination of the sick child, and the therapeutics of infancy and childhood, are admirable, and contain much useful information. The rest of the book is devoted almost entirely to the medical disorders of childhood, but at the end are sections on diseases of the ear and diseases of the skin. The inclusion of the former, excellent though it is, is perhaps a little surprising, as the other surgical diseases of children are not dealt with or are only briefly mentioned; indeed, there would not be room for them in detail without making the volume unduly cumbersome.

Considerable attention has been paid to treatment, much of which is the outcome of the author's personal experience. Dr. Rachford strongly advocates the use of guaiacol in affections of the lung, the various forms of tuberculosis, and in cysto-pyelitis. The descriptions of the various diseases are of such a uniformly high standard as almost to defy criticism. We must, however, take exception to the statement that recurrent vomiting with acetonuria "is one of the most common diseases of early childhood," in spite of the fact that the author includes under this heading several clinical types, and associates recurrent coryza and migraine with this condition. In the account of retro-pharyngeal abscess there is no mention of caries of the cervical vertebræ as a cause, or of the appropriate treatment for an abscess arising in such a situation. Further, the chapter on leukæmia is somewhat misleading. The lymphatic variety is not so very uncommon in childhood as the author would lead one to suppose, while the myeloid form is, on the other hand, exceedingly rare. In speaking of night-terrors the writer states (p. 672) that "peripheral irritation plays a part in touching off the paroxysm"—an expression which sounds curious to English ears. It is interesting to note that he divides the subject into central or idiopathic and symptomatic or peripheral terrors, though he is not prepared to state that there is a fundamental difference between the two.

The book contains six coloured plates and numerous illustrations, many of which are taken from other sources; several charts and radiographs are also included. The printing is good and the get-up of the book is excellent. We can confidently recommend it to students and practitioners who are seeking an up-to-date and thoroughly reliable text-book on the subject.

T. R. W.

THE BABY: A MOTHER'S BOOK. By a MOTHER. London: T. C. & E. C. Jack. Pp. 94. Price 6d. net.

MARRIAGE AND MOTHERHOOD. By H. S. DAVIDSON, M.B. London: T. C. & E. C. Jack. Pp. 93. Price 6d. net.

BOTH these little works belong to the series called "The People's Books," and are written in simple and unpretentious language. The former con-

tains instructions regarding diet, clothing, exercise, and general hygienic advice concerning the way a child should be reared from its earliest years, and the latter book describes succinctly the hygiene of pregnancy, its signs, symptoms and complications, with a chapter on the newly born child similar to, but less detailed in its instructions, than in the former brochure. Both books can be heartily recommended, and are deserving of study by those who have, or are about to have, the care of a child. F. R. B. A.

Correspondence.

A CASE OF FATAL HÆMORRHAGE FROM THE THROAT.

To the Editor of The British Journal of Children's Diseases.

Dear Sir,—I was much interested to read a case of fatal hæmorrhage from the throat reported by Dr. J. D. Rolleston in the British Journal of Children's Diseases, 1913, x, p. 66, as I had a very similar case tale summer. I regret that I did not keep any notes of the case, but I can trust my memory fairly well.

The patient was a little boy, aged about 6 years. I received a message from a doctor that he had a case of urgent mastoid abscess, which he asked me to take into hospital at once for operation.

I examined the child on arrival, and found that he had no mastoid trouble, but a much enlarged tonsil on the left side, and free hæmorrhage from the left ear. He had a fairly high temperature. The blood coming from the ear was quite bright, and unmixed, as far as one could see, with pus.

I left him alone, but later, I think the next day, there was so much obstruction to respiration that I decided to try to relieve the condition by opening the enlarged tonsil. I pushed a sinus forceps a short distance into the tonsil in the usual way for quinsy, and though there was no evacuation of pus the condition was relieved.

The next day or two the child seemed much better, though more hæmorrhage occurred from the ear, and he still ran a high temperature.

About the third day a nurse was sitting by him, and the child talking and playing quite happily, when suddenly, without any warning, he gushed up a quantity of blood from his throat, and, according to the nurse's account, dropped back instantly dead. I could not do a post-mortem, so am unable to give the source of the hæmorrhage, but, from the great rapidity of death, concluded that it was carotid.

The strangest feature in the case was the hæmorrhage from the meatus beforehand. The condition was obviously a septic one from the start, but there was no history nor evidence of scarlet fever.

I am quite certain that I did not penetrate anywhere near the carotid when I pushed in the sinus forceps. I did this under a general anæsthetic with great care.

Hoping this case may be of interest to you,

I am,

Yours faithfully,

Lloran House,
Marlborough;
March the 9th, 1913.

Walter B. Maurice.

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Original Articles.

SOME CASES OF MENTAL DEFICIENCY.

By E. BELLINGHAM SMITH, M.D., M.R.C.P.,

Physician to Out-patients, Great Northern Central Hospital; Assistant Physician, Queen's Hospital for Children.

LADIES AND GENTLEMEN,—Before I start to show you the cases which have come here to-day, I would draw your attention to a table which represents roughly a fairly satisfactory classification of the various classes of mental deficiency as they are at present recognised:

First group.—(1) Simple; (2) microcephalic: (3) Mongolian; (4) hydrocephalic; (5) sclerotic.

Second group.—(1) Epileptic; (2) encephalitic; (3) hydrocephalic; (4) traumatic; (5) amaurotic family idiocy; (6) toxic and syphilitic.

Third group.—(1) Sense deprivation—(*a*) deaf and dumb, (*b*) blind; (2) athyroidism or cretinism.

The first group includes those children who are born mentally deficient, *i. e.* whose brains have undergone some change *in utero* so that power of development is arrested, or whose brain-tissue is of such a quality that it is incapable of perfect development after birth.

The second group includes those children who, normal at birth, have during life suffered from some cerebral injury or been affected

* A Post-graduate lecture delivered at the Queen's Hospital for Children.

by some disease which for the time, or for all time, has so damaged the brain that further development is hindered or entirely arrested.

Intermediate between these two groups I would put a third, where the mental deficiency is due to deprivation of certain special senses, such as sight, hearing, or to the absence of certain internal secretions, such as thyroid secretion. These children, if properly educated or if provided with the substance of the organ which is lacking, are capable in some cases of taking their place again in the ordinary ranks of their fellow-creatures.

To-day I propose to deal with the cases in the first and third or intermediate groups. These form by far the greatest bulk of imbecile children (about 90 per cent.), and are therefore the more likely to come under your observation.

Taking the smallest group first, I show you here a very pathetic little patient who illustrates well the mental deficiency which may arise from deprivation of special sense—where education is not undertaken or attempted.

The child (M. A—) is aged 2 years 8 months. She looks like an infant of one year. Her history is that she was born and remained an apparently healthy baby until three or four months old, when she was attacked by whooping-cough and had some inflammation of her eyes, which was apparently very severe and neglected, and which speedily resulted in the destruction of sight in both eyes. At an age when an infant begins to take notice of surrounding objects, in other words, commences to develop his intelligence, the child was deprived of one path of knowledge—namely, sight. Now, in addition to that, her home is of the lowest class—the mother works for her living—so that the unfortunate child has been probably laid aside all day in a bed or basket, and no attempt has been made to encourage her mental development by the remaining sensory paths, namely, hearing, touch, etc.

Like so many imbecile children she screams fitfully and miserably. She is very difficult to feed with any solid food, and has no idea of indicating when she requires to relieve the bowels or bladder. She cannot sit up. The head is extremely small and there is general stunting of growth.

I have no deaf and dumb imbeciles to show you, so I pass to the next deprivation group, namely, that due to failure of the thyroid secretion, or cretinism. Of these I can show you cases in nearly all stages.

The first child is H. R—, an infant aged 9 months. He was brought to hospital "because he was not quite like other babies." At

his first attendance at out-patients I made the following notes about him: The infant can neither sit up nor hold his head up. The head itself is well developed and normal for age. He is quite apathetic—his expression is one of sullen scowling discontent, an effect largely produced by the deep transverse wrinkles in the skin of the forehead. The eyes, which are very wide apart, are small, round, sunken, and rather pig-like in character, and the bridge of the nose is broad and flat. The tongue, which is large and purple, is kept constantly protruded. The skin generally is of a yellowish-white colour, while the subcutaneous tissues have a puffy œdematous appearance. In places the skin is wrinkled and loose, especially on the back of the hands. There is a large umbilical hernia, and the extremities generally are cold and slightly cyanosed. He is said to be very constipated.

The description which I have just read to you will, I think, be found to be true of the appearance of most cretin babies of this age.

We put this baby for the first three weeks on $\frac{1}{4}$ gr. of thyroid extract (Burroughs and Wellcome) twice daily. At the end of that time the bowels were almost regular. At the end of the sixth week he was given $\frac{1}{2}$ gr. twice daily. At this date his mother said she thought he was much brighter. At the end of the ninth week he was given $\frac{3}{4}$ gr. twice a day. His tongue was now distinctly beginning to recede, the wrinkles on his forehead were disappearing, the hernia was smaller and the bowels were quite regular. You see him now at the end of the eleventh week; the frowning look has given place to an inquiring, half-pleased expression, there are scarcely any wrinkles on the forehead and the tongue has receded altogether. With all these rapid changes, however, there are still marked symptoms of cretinism in the flat nose, the small wide-apart eyes and the general backwardness, which is shown in the inability to sit up, and the strange absence of movement which one usually associates with a baby of this age. The emotional faculties are also not yet aroused, for he never smiles and rarely cries.

The next case I show you is another infant, A. N—, aged 1 year and 5 months. The appearance of this child when she first came to out-patients was almost identical with the description I have given you just now.

There was the same frowning expression, the same large purple protruding tongue, the same curious small sunken eyes, while the subcutaneous tissues were boggy and bloated. This infant could not sit up, had no teeth, the fontanelle was very wide open, there was a large umbilical hernia, and the bowels were very constipated.

Thyroid was given as in the above case, and you can now see the result of eleven weeks' treatment. The tongue no longer protrudes, the hernia is much smaller, the bowels act twice a day, the eyes are bright and seemingly more prominent, and the child smiles and takes notice. On the other hand, the tissues are still slightly myxœdematous, and the presence of a sluggish circulation is still evident in the swollen and rather dusky extremities.

The third child I show you came to out-patients when it was 6½ months old. It is now thirteen months old, so that it has had seven months thyroid medication. The features in this case were identical with those of the preceding patient, and I shall therefore not spend time recounting the various symptoms she presented when she was originally brought to hospital; it will be sufficient to draw your attention to her present appearance. I think you will agree with me when I say that so far as her general aspect goes she resembles an ordinary baby, in fact she smiles, cries, moves, feeds and generally behaves like an infant of thirteen months. This case illustrates admirably the good results which may be obtained by early treatment.

The fourth case which I show you of this disease indicates, on the other hand, how unsatisfactory is delay in diagnosis and treatment. The child in question, L. C—, aged 5 years and 7 months, has now been attending hospital for 3½ years, so that treatment did not commence until the child was two years old. When first brought to hospital her appearance was as follows: Body and limbs very small, about the size of a ten months' baby; head, on the other hand, large, fontanelle wide open, hair dry and sparse, skin of forehead in numerous wrinkles, eyes small, sunken, wide apart, nose flat, very *retroussé*, teeth absent, tongue large, protruded about ¾ in., skin of body loose, wrinkled, and dry and scaly, face and tissues generally puffy and bloated, abdomen pot-bellied with large protruding umbilical hernia; she cannot sit up, takes little or no notice, and has never spoken. The bowels are exceedingly constipated and the temperature is 97° F.

In that description you have most of the features of mental deficiency in infancy combined with all the chief symptoms of sporadic cretinism.

Treatment in her case was begun on the same lines as in the previous children. The thyroid was increased gradually from ¼ gr. *t.i.d.* to 2 gr. at the end of a twelve-month. Improvement was rapid at first; all the gross features of the disease had disappeared by the end of the fifth month. After twelve months' treatment she could sit up alone, had twelve teeth, smiled, took a certain amount of notice, and tried to say small words like "mum" and "dad." At

the end of eighteen months she was said to be very bright and happy, could pull herself up and stand by a chair. With the end of the second year she could walk, had all her teeth, could repeat a number of small words, and had grown and developed to practically the normal height and weight, etc., for her age.

As you see her now I do not think you could positively say that she exhibits any marked symptoms of cretinism. The nose is perhaps a trifle flat and the eyes a little wide apart; otherwise she is well-grown, has a lot of pretty, fair hair, and her skin and complexion are perfect. She talks, but mostly in repetition and not spontaneously. Like so many weak-minded children she sings and hums tunes with considerable accuracy, and she is in addition a great mimic. In conclusion she has no bad habits and is always happy and bright, but I am afraid that her intelligence will never be of a very high order.

In addition to the cases which show marked features of cretinism in babyhood there is a type which does not call for much attention before the child is some years old. This little girl, N. V—, is a splendid example of that condition. She is aged 12 years, and is, as you notice, about the size of a child of seven. She attends an ordinary elementary school, but is only in the second standard, and, according to her mistress, is rather dull for that. When you come to examine her you find that she has all the characteristics of this disease in a mild degree. Her skin is dry and scaly, her chest narrow and small, while the abdomen is protuberant; and there was before treatment was commenced a small umbilical hernia. There is in addition a marked lordosis. When I saw her first she had quite definite supra-clavicular pads. She has the typical features, viz. the flat nose and the wide-apart eyes. In temperament she is quiet and good-natured, talks quite intelligently, and is good at needlework, but she is rather slow in everything she does and says. She is now having thyroid extract 2 gr. (Burroughs and Wellcome) *t.i.d.*, and is said to be improving very slowly. She will certainly earn her own living.

These cases, I hope, give you a fair idea of sporadic cretinism. It is, I think, a distinctly rare disease in London.

The points I should like to emphasise in regard to these children are: (1) the necessity for early diagnosis and treatment; the sooner you commence to treat these children the more likely are you to produce a fairly normal child in later life; while if there is any considerable delay there is not the slightest doubt that you will achieve very little more than an average high-grade imbecile. Two

years ago I had a boy attending my out-patients, aged 10 years, who was a cretin, and who had been treated with thyroid since he was seven months old. I think at first sight you would have had some trouble in detecting anything wrong with that boy at all, at the worst you might have classed him as a rather dull child. On the other hand, the little girl, L. C—, whom I showed you, indicates how unsatisfactory is the outlook when treatment is delayed.

Every now and then I think you will come across a cretin, who, in spite of early treatment, will not react in a satisfactory manner to thyroid. The explanation as to why this should be so is not altogether clear, but we may presume that in these cases we are not dealing simply with a case of athyroidism alone, but of probably primary amentia in the first instance with super-imposed athyroidism.

The second important point is the question of dosage. I have in my mind two cases; both were infants; one was four months old and the other twelve months. The first was a case of my own, the second was an in-patient under a late colleague of mine at this hospital. Both infants were given the old dry thyroid extract $\frac{1}{4}$ gr. *t.i.d.* My colleague's case died quite suddenly a few days after the beginning of the administration of the thyroid from causes then not very clear. In the case of my infant the mother came and demanded a death certificate after four days, stating that the child had had a little diarrhœa and had died quite suddenly. Now both these cases died, I think, as the result of an excessive dose of thyroid. If you follow the dosage I have recommended I believe you will avoid this unfortunate, or perhaps from some point of view, fortunate catastrophe. The last point in the treatment of these children is to remember that when commencing thyroid in the older cases, or in those where the effects of thyroid inadequacy are delayed or slight, often considerable bending of the bones of the lower extremities takes place; you should therefore warn parents on this point, and limit for a while the amount of exercise when treatment is first begun. I had a delayed case in a little boy of six years, whose tibiæ after a few months' treatment suggested quite bad rickets. He has recently disappeared from my out-patients, so that I am unable to show him to you to-day.

Prognosis.—As regards prognosis you will have seen from these children that there are two classes of cases: one which calls for treatment early, and one in which, for reasons which I cannot explain, there are no very evident symptoms until some years of childhood have elapsed. Again, in the first group of cases

it would appear that a certain number react quickly to treatment, while a few show a distinct reluctance to yield to thyroid medication. Therefore, while you may promise an almost immediate improvement in outward appearance and physique, you should be guarded on the point of future intelligence. Time alone will give you an idea of what that is going to be.

The third type of mental deficiency to which I now pass is also distinguished by a characteristic external appearance. This is the Mongolian imbecile. The name, as you know, is derived from the peculiar upward and outward tilt of the eyes—this I would impress upon you is not always a very marked feature—and the curious round or brachycephalic skulls.

I have three children of this class to show you. They are all three infants. I should have liked to have shown you an older Mongol, so that you might have seen how deplorably ugly these unfortunate children become when they grow up, but for reasons which I shall tell you later these older Mongols are much more rarely seen than the baby type, which is comparatively common.

The first baby I show you, D. T—, is now eleven months old. Her mother brought her to hospital for constipation. On questioning her closely she confessed that although the child was very bright, she didn't think that she was quite like her other children. If you examine the infant you will notice that the head is small and rounded, so that the occiput is almost in a line with the neck; the eyes are small and oval in shape; and the palpebral fissures are directed upwards and outwards. There is also a fine lateral nystagmus and well-marked epicanthic folds. The nose is small, the ears are round, and the various convolutions are feebly developed. Her tongue while she is awake is constantly being protruded and withdrawn; this, combined with other irregular movements of the facial muscles, suggests that the child is constantly grimacing. In the intervals when not so occupied she is, as her mother says, outwardly bright and smiling. This feature sometimes deceives medical men in regard to the intelligence of these children.

The second infant, R. T—, aged 14 months, exhibits all the same points you have just seen in the last child, and in addition she shows very beautifully the very short and very curved little fingers which many of these Mongols are supposed to possess.

The third case is a boy, aged twenty-five months, who is afflicted with what nearly all these children suffer from at some time or other, namely, marked nasal obstruction. Listen to the horrible snuffling noise he makes. The causes of this obstruction are three :

(1) A very small nasal space, which is further curtailed by (2) the frequent presence of adenoids, and (3) by a backward prolongation of the vomer of the nose (Still). The adenoids which were present here were removed with some slight improvement when the child was fifteen months old. He has always been difficult to feed, first on account of his nasal obstruction, and now because, like so many imbecile babies, he spits out all solid food that is given him. In addition to his Mongolian characteristics he is very backward in other respects; he cannot sit up, has only two teeth, and his fontanelle is still wide open.

Now that the parents have gone I will tell you a few more facts about these children.

First of all, none of them—however apparently bright—will earn their own living. The best of them will be able to help in simple things in the house or garden. Another point about the future of these children is that they rarely survive puberty. There are very few adult Mongols in the asylums of this country. I would go further and say that very few of these children survive the first four years of life. I have had six of these infant Mongols brought to my out-patients this year, and of these three are already dead before they are two years old. One died of bronchitis; another contracted diphtheria, recovered, but shortly afterwards caught measles and died; the third got a moderately bad attack of diarrhœa and died in a few days. Lung diseases are especially a common cause of death of these children. The infant type die of bronchitis and broncho-pneumonia, and the older Mongols of tubercle. A few have congenital heart disease, and occasionally this is sufficiently severe to produce death.

If they survive five years of age, these children, in my experience, grow up along two distinct lines: they are either very quiet, placid, and affectionate, or they are very outwardly bright, mischievous, and inquisitive little people. The first are slow moving, stunted, often waddling in their gait. The second type is always on the move, poking fingers into everything, laughing and making curious noises. Both are very ugly, have small heads, little oblique eyes; often affected with marked blepharitis; have high-coloured cheeks, the skin of which usually becomes as they grow older dry and scaly. Their snub noses and often open mouths make a hideous picture. If uneducated they are constantly grimacing and protruding their tongues, slobbering, and making uncouth noises.

Some of them talk, but their speech is guttural and very indistinct. They are very affectionate and very jealous for the same

reason. I had one girl Mongol of 11 years, who would rush into the out-patient room and attempt to seize me round the neck and kiss me. Sometimes they are very nervous. They are great mimics, and some of them possess, like so many idiots do, a very musical ear.

The fourth type, which I am now going to show you, is that of microcephaly. As the name indicates, the principle feature of the class is a very small head; not only is the circumference of the head small, but there is also a marked relative disproportion between the growth of the face and lower parts of the skull and the vault. Thus you notice that in both these children, and especially in one (J. K—), there is a fairly well-developed face, but the whole of the upper part of the skull is ridiculously small and the frontal region is pinched and narrow. Most idiots have a skull which is below normal in size for the age, but only this type have this curious disproportion in the different parts of the skull. In addition the fontanelle often closes early and is apparently sometimes closed at birth. I show you two cases of this kind: The first one, and the most marked, is J. K—, aged 17 months. She is brought to hospital because she cannot sit up or stand, and is always making curious faces, her tongue is always lolling out, and she is constantly dribbling saliva; all four limbs are rather rigid, and you notice that she presents, in a very marked degree, the type of skull that I have just described to you.

The second child, M. P—, aged 2 years, is very small for her age, she cannot sit up, cannot even hold her head up, but she takes notice, smiles, and makes noises resembling "mum" and "dad." She is the reverse of this other child, in that all her muscles are extremely flabby. The circumference of the head in this case is only 16 in., when, as you know, the average at two years should be about 19 in. In the former case the circumference was only a little over 15 in.; the disproportion between the vault and the face is not so obvious in this case as in the younger child.

The prognosis in these cases is a difficult one: the degree of intelligence present is very variable; a great many die young, a number grow up helpless idiots, a few are possessed of a moderate amount of mental power, and under careful guidance and education will be found capable of following some simple manual vocation.

The next distinctive type of mental deficiency I show you is that known as paralytic or sclerotic idiocy. In these cases the damage to the brain, which occurs *in utero*, not only affects that part of the brain which is concerned with intelligence, but also may include

the motor areas, so that the child may present not only mental deficiency, but in addition some degree of paresis as well. The damage to the motor area may be partial or more or less complete. Thus both legs may be affected, when we shall have a paraplegic imbecile; or all four limbs and trunk may be implicated, when we shall have a wide-spread paralysis, or spastic diplegia as it is termed.

This child, N. L—, is an example of mental deficiency and spastic diplegia. He is five years old, and can only walk with difficulty if supported under the armpits. All four limbs are exceedingly rigid, the legs more so than the arms, the reflexes everywhere are very brisk, and the plantar reflex is extensor. His head is extremely small, but has not the curious features which I told you were characteristic of microcephaly. This child is subject to convulsions of the *petit mal* type. This is not an infrequent complication of mental deficiency, and is often of bad omen. If the fits are frequent—and they usually are so—the mental state will gradually depreciate until there is often complete dementia. In other respects this boy can say a few words, and is clean in his habits; the latter is largely a matter of training, and this child is blessed with an excellent mother.

The second child, I. R—, is an example of paraplegia and imbecility. You will notice that both his legs are rigid, and that when supported he walks with a cross-legged progression owing to the spasm of his adductors. In addition to his paralysis he has many of the failings of the mentally deficient and very few redeeming qualities; thus he slobbers, has no control over his motions. On the other hand, he can say a few words and takes a good deal of notice; he is certainly capable of further education, and I think he will eventually walk.

The last group with which I deal is that which is termed "genetous idiots"—simple primary amentia and unclassifiable mental deficiency. This class forms very nearly 50 per cent. of all cases of mental deficiency. It is called "simple amentia" because there are no distinguishing features beyond the lack of intelligence, and is called "primary" because the child is born with it. It is also called unclassifiable because it contains all kinds and degrees of the mentally deficient children, from the lowest grade idiot to the child whose intelligence is only just below normal. The few cases I have brought here illustrate the protean character of this class.

Here is one, A. W—, aged 8 years, a fairly normal child to look at, but he has a curious distinct and rather sulky expression. He

was brought to hospital because he was so nervous, had inexplicable attacks of passion, and slept very badly. All these three features are common to mentally deficient children, but taken alone they do not necessarily indicate mental deficiency. On inquiry you find he can talk, but doesn't know his letters, can't count, is very irritable, and is spiteful; is inquisitive, is very passionate if thwarted, and of very hasty disposition. His memory is very bad; he lacks all power of application.

That is a fairly usual description of a higher grade mentally deficient child. This boy will probably ultimately attend a special school, and will improve considerably.

Here is an entirely different child (L. C—, aged 4½ years). He was brought to hospital at 3¼ years because he was weak on his legs and couldn't talk. He had then only just began to walk; he chatters volubly in his own language; he also is very nervous and irritable if thwarted. When he wants anything he points to it; he can appreciate between right and wrong; he hears, but has that curious inertness for sound which some mentally deficient children show.

To look at he is a bright, cheerful, well-developed little boy, with no outward stigmata. His history from birth gives you an excellent idea of the usual features some of these children display, and which, when there is no characteristic appearance about the child, should lead you to suspect that later he will be mentally deficient.

Thus as a baby he was always sleepless, irritable, and screaming, although he was breast-fed, and never had any difficulty with digestion or bowels. He couldn't sit up until he was one year old, and he didn't attempt to walk until three, although there was no rickets. He had no proper control over motions and urine until he was three years and five months old. He can now say a few monosyllabic words, but they are generally repeated parrot-wise. He indicates everything he wants by gestures.

M. A—, aged 2½ years, belongs to another unclassifiable type. She has always been backward since birth. Refuses to use her left arm, which is quite flabby, although there is no evidence of paralysis. She talks fluently, has a squint, is very nervous, and has a double talipes calcaneo-valgus which prevents her walking. Deformities are not uncommon with these mentally deficient children. They have ill-formed brains and often ill-formed bodies.

J. L—, aged 3½ years, another of the same class. Can't talk; walked at two years; very dirty in his habits; has "no sense." His fontanelle was wide open at three, and he still takes the bottle.

He has a very large head, but there is no evidence of hydrocephalus. As a rule, imbecile and idiot children have heads which are smaller than normal, but there are exceptions, and this is one. Size of head is not evidence of intelligence ; it is quality and not quantity that counts.

J. R—, the last child that I show you, is a case of simple amentia, but he is, in addition, suffering from another disease. He is brought to hospital because he is weak-minded and also weak on his legs. You notice, first of all, that his calf muscles are very large and bulky, that the muscles of the front of the thigh exhibit irregular enlargements, and that as he stands there is marked lordosis. Going higher, you see that there is wasting of his latissimus dorsi, and that the infra-spinati stand out like a professional strong man's muscles. His deltoids are enlarged in their upper part and slightly wasted below, and there is evidence that there is some wasting of the lower part of the pectorals. If you make him walk, he plants his feet wide apart and walks on a broad base. If you place him flat on the ground, he rolls over and rises by climbing up his legs. In other words, he presents most of the signs and symptoms that we associate with the disease known as pseudo-hypertrophic muscular paralysis, and he is, in addition, slightly mentally deficient.

That completes all I have time to tell you to-day about mentally deficient children ; the question of treatment is a large one and must wait to another day.

A NOTE ON AN EPIDEMIC OF MEASLES AT ROTUMÁ, 1911.*

By B. Glanvill Corney, I.S.O.,

Late Chief Medical Officer, Colonial Government, Fiji.

It is now just twenty-nine years since I had the honour to lay before the Epidemiological Society a record of the great measles epidemic which took place in the Fiji Islands in 1875.† What

* A paper read before the Epidemiological Section of the Royal Society of Medicine on Friday, February the 28th, 1913.

† 'Trans. Epid. Soc. Lond.,' N.S., 1883–4, iii, p. 76.

I am permitted to relate to you now records, I regret to say, a similar calamity which has but recently befallen the interesting native community inhabiting the little island of Rotumá, an outlying dependency of the colony I have just named. In the paper referred to, I mentioned that, as far as I could vouch without my notes before me, measles had not up to that time (1884) extended from Fiji to Rotumá, nor to other adjacent clusters of islands. Since then, Tonga has acquired it from New Zealand; and Fiji experienced a second but milder epidemic of it in 1907 from the same source, when the mortality amounted—using round numbers—to 1800 out of 30,000 cases in a native population of about 89,000 who had had no contact with measles for thirty-two years. It is a fact, however, that Rotumá continued to escape infection until the early months of 1911, and it is to what has taken place at that island in this latter year that I now invite your attention for a few minutes only, because my statement will necessarily be confined to bare facts and a few figures, for a reason that will appear.

As Rotumá is but little known to the outside world, perhaps I may be excused if I offer a brief description of it and its geographical position. It is situated in latitude 12° 30′ S. and longitude 177° E., some 260 sea miles distant from the nearest part of the Fijian archipelago, from which it bears N.N.W. The most southern atolls of the Ellice Group lie about the same distance off in a north-easterly direction, and the nearest of the Samoan islands is Savaii, 600 miles E. ½ S. from it. It is of volcanic origin, being formed mainly of igneous rock, and the products of its gradual weathering and disintegration, but is girt about all around at the sea-level with a fringing reef of coral. Its highest point reaches 840 ft. above the sea, and though no fewer than six ancient crateriform vents are recognisable, none of them have been active within the ken of local tradition or legend. The area of Rotumá is but 14 square miles, its total length is less than 9 miles, and its width varies from a stone's throw to 2 miles and 1280 yards. In dealing with the land I am employing statute miles.

Although but a tiny spot upon the face of the waters, Rotumá is one of the most fertile and productive of South Sea islands; while, notwithstanding its remoteness and isolation, and in spite of Home Rule holding sway amongst them, its couple of thousand natives rank with the most prosperous, law-abiding, gentle and loyal subjects of the British Crown, under whose ægis and protection they came in 1880 by virtue of their own independent desire.

It was therefore a most unfortunate circumstance that, on

January the 29th, 1911, a steamer called at the island with a case of measles on board. Whether it was definitely apparent, or as yet only in the incubative or pre-eruptive stage, I am not aware. The government of the island is administered by a European Resident Commissioner; and the Fijian Ordinance to regulate pratique and quarantine matters is not only in force at Rotumá, but there are special restrictive regulations made under it applicable to communication with this island. It is now some twelve or thirteen years since a recommendation I made that a medical officer should be selected for the position of Resident Commissioner was acted upon. But owing to the debilitating nature of the climate, which is not merely hot, but very humid, it is necessary to allow the Commissioner leave of absence at least once in every two years. This officer had proceeded on leave in the customary way towards the close of 1910; and the exigencies of the service in Fiji at that time made it impracticable to supply a medical deputy to act for him during his absence. So that, briefly stated, the infected steamer arrived at Rotumá at a moment when there was no medical officer on the island; communications took place, and measles became implanted amongst the people. I am in a position to state positively that this disease had never previously visited Rotumá during the lifetime of the generations now living; but the late paramount chief of the island, whose titular designation is Marafu, told Professor Stanley Gardiner * in 1897 that "when he was a boy measles ran through the whole island, and, he believed, carried off about one person in every house." Marafu remembered, too, to "have heard of an epidemic which followed the great Malhaha War, and was still more fatal." Whether Marafu really knew what measles, as differentiated from other zymotic diseases, means, is an open question, for it is within my personal knowledge that intelligent Fijians have sometimes used the term *misila* in reference to any wide-spread epidemic, such as influenza or dengue, since they learnt it it 1875. Marafu was an oldish man in 1897, and is not now living; it is reasonable to suppose that "when he was a boy" might refer to any time between 1830 and 1850. Peter Dillon, who was at Rotumá in 1827, described it as eminently thriving and populous, and mentions that "there were more than a dozen white men, deserters from whale ships, then living there, and all of them married two or three wives, according to the custom of the country,

* "The Natives of Rotumá," by J. Stanley Gardiner, B.A. Communicated by Professor Alexander Macalister, M.A., F.R.S., to the Anthropological Institute. *Vide* Journal, February and May, 1898.

and had large families growing up."* Another voyager—Lucett, I think—writes of as many as fifty-four white men being there about ten years later.† The Malhaha War occurred between 1800 and 1805, as nearly as can be fixed; and it is a significant fact that there is other evidence, both traditional and in print, of a very fatal and wide-spread epidemic of undetermined identity having prevailed in many of the Pacific island groups in 1802 or 1803, when whaling vessels and sandal-wood traders were beginning to become really numerous in those seas. That such was the case in Hawaii and in Fiji is certain; and there is reason to think that in the latter islands, where it was heralded by a parti-coloured three-tailed comet, and marked by an eclipse, the symptoms quoted in the native saga seem consistent with the idea that it may have been measles followed by ileo-colitis, as has happened since.

More than eighteen months have passed since I received, in private letters, news that my friends in Rotumá were in trouble. Measles had broken out there, during the medical Resident Commissioner's absence on leave, and the deaths due to it and its sequelæ were proving very numerous. A few further remarks of a general nature confirming this appeared in the Fijian newspapers, which may be seen in London at the Royal Colonial Institute. But it was not until December last that the Commissioner's Annual Medical Report for 1911 came to my hands. From it I cull the particulars which, though dealing generally with vital statistics as an annual report should do, has in it some passages with special reference to measles. I may here explain that during the time I was Chief Medical Officer of Fiji a monthly medical report was rendered me by the Commissioner at Rotumá—a practice which I presume has been continued to my successor; but those reports are not printed, and I have naturally not been in touch with them since my retirement from office, which dates from 1908. The population of Rotumá in my time fluctuated but little, and stood usually at about 2200; but it is believed with reason that it was quite double that number in the first half of the last century, though I doubt whether it even reached 5000, as an eminent missionary, the late Mr. James Calvert, has suggested.

I now proceed to quote from the Commissioner's (Dr. Hugh MacDonald) Report‡:

* 'Narrative . . . of a Voyage in the South Seas by the Chevalier Captain P. Dillon': London, 1829.

† 'Rovings in the Pacific,' by a merchant long resident at Tahiti; London, 1851.

‡ Legislative Council Paper No. 28, Fiji, 1912 (Annual Medical Report, 1911).

"The estimated population of the island at the mid-year was 1973 persons; and the actual number ascertained by a census taken on November the 27th was 1983.

"The births numbered 79, and the birth-rate, calculated on the number of people on November the 27th, only reached 39·8 *per mille*. This is a low rate for this place where rates of 50, 52, 56 and even 59 *per mille* have been recorded. Of the total number, one was a stillbirth and five premature, and the cause of these was infection with measles on the part of the mothers. . . . The male births were seventeen in excess of the female, and numbered 48, the female only 31.

"The deaths numbered 489, and the death-rate reached the enormous figure of 246·5 *per mille*. The death-rate has always been high here, and in former years the lowest rate I have registered has been 37 *per mille* and the highest 54. A death-rate of 73 *per mille* was recorded in the year 1901, when Dr. Hall visited this place in connection with an epidemic of choleraic diarrhœa [? ptomaine poisoning], which had prevailed for some time before his arrival. The explanation of the high death-rate this year is, of course, the epidemic of measles which, allowed to run through the people for the first time, during my absence on leave, swept them off literally in hundreds. The female deaths were sixty-five in excess of the male, and numbered 277, as against 212.

"I have shown a return* of the age-period at which death occurred, and from it it will be noticed that death has been most busy among young children and adults from twenty to twenty-five years of age. From five to twenty years the incidence has not been so heavy, and over forty-five years it has been comparatively slight.

"The causes of deaths are shown on another return, and among the chief, measles leads the way with its 326 victims. The disease, as I have already reported, was in most cases complicated with ileo-colitis, most likely of bacillary origin; in some with tubercular disease of the lungs; in a few with yaws, pneumonia, pregnancy, childbirth, miscarriage. Phthisis pulmonalis follows next with twenty-six deaths. Since the measles epidemic its prevalence has been wide-spread. Always regrettably common here, it has become more so of late. Acute broncho-pneumonia carried off twenty children—in most cases the disease might be put down as an after-result of measles. I have put down twenty-three cases to ileo-colitis —following measles in all cases, but where complete recovery from the latter disease had taken place. . . .

* Not printed with the original.

"Measles were introduced on January the 29th when I was absent, and on my return on March the 26th, 700 cases were reported to me as existing. The epidemic continued throughout April and May, and finally died out in June. It caused 50 deaths in March, 198 in April, 74 in May, and 4 in June. It was accompanied with or followed by acute ileo-colitis—a very fatal complication in most cases.

"Influenza appeared about the close of April, and continued its course through May. It was unfortunate that it should have followed so close on the heels of the last-mentioned epidemic, as it must have undoubedly proved fatal to many measles convalescents.

"Mumps were also prevalent in May, and the swellings in many cases disappeared very slowly; it was not, however, very widespread."

The Report adds that owing to the epidemic of measles the progress of vaccination in the island was much interfered with; and that, with regard to the future health of the people, an increase of tubercular disease, only to be expected, however, since the introduction of measles, should be noted. This, Dr. MacDonald hoped, might perchance only weed out the undesirables and leave those best fitted to survive to propagate the race.

The following table represents the vital statistics of the community for the same year:

Total Population.*

Estimated at the mid-year	1973
Actual, by census on November the 27th	1983

Births.

Males	43
Females	31
Total	79
Rate *per mille*	39·8
Stillbirth	1
Premature	5
Illegitimate	7
Births of mixed parentage	15

* Including about a dozen Europeans.

Deaths.

Males	212
Females	277
Total	489
Rate *per mille*	246·5

Marriages.

Total number	31
Rate *per mille*	15·6

The marriage-rate also was somewhat higher than has been customary as a consequence of the measles epidemic, some of the survivors whom it bereaved having lost but little time in contracting new alliances.

PRIMARY STREPTOCOCCAL PERITONITIS IN A CHILD, WITH SEPTICÆMIA, ENDING IN RECOVERY.

By Alex. MacLennan, M.B., C.M.,

Assistant Surgeon, Western Infirmary; Extra Honorary Surgeon, Royal Hospital for Sick Children, Glasgow; and

J. W. McNee, M.B., Ch.B.,

McCunn Scholar in Pathology, Glasgow University; Extra Honorary Physician, Royal Hospital for Sick Children, Glasgow.

Numerous cases of pneumococcal peritonitis in children have been reported from time to time. From the ætiological aspect the interest in this case lies in the proof of the infecting organism being a definite streptococcus and not the pneumococcus of Fraenkel. A recovery from a primary streptococcal peritonitis, notwithstanding the presence of an extensive septicæmia, makes the case worthy of record. The report of the case is as follows: A girl, aged 6½ years, was admitted to the Western Infirmary on April the 29th, 1912, with an "acute abdomen." Four weeks previously the child had suffered from measles; a slight cough had since persisted. Two days before admission vomiting with diarrhœa set in and was accompanied by abdominal pain. On admission the temperature was 100·4° F., and the pulse was 116. There was nothing palpable over the appendix region. The child was operated upon at once. The abdomen was opened through the usual right-sided gridiron incision over the appendix region. A general peritonitis was noted with the presence of a considerable quantity of turbid, purulent,

odourless fluid free in the peritoneum. The appendix was inflamed superficially in common with the rest of the abdominal contents, but was otherwise normal. A rapid examination of the pelvic organs, intestines, stomach and the abdomen generally failed to reveal any cause for the peritonitis. The appendix was stitched into the wound, which was closed round it; after opening, a thin rubber catheter was passed through into the cæcum. Douglas's pouch was opened *per vaginam* and a tube inserted into the peritoneum. Pus from the abdominal wound was placed in a sterile tube, and forty-eight hours afterwards the blood was examined. The result of the examination will be referred to later. The child remained in a critical condition for a fortnight, the temperature ranging from 100° to 102° F., and the pulse from 120 to 140. After this convalescence was gradual, though delayed by suppuration at the site of a saline subdermic infusion. The child was dismissed on July the 10th; she returned for examination on September the 22nd and was found apparently in perfect health.

Primary pneumococcal peritonitis in children runs a comparatively benign course, though the same cannot be said about streptococcal infections.

The origin of a primary peritonitis is obscure, and various theories exist to account for the entrance of the infective agent. The infection may come from the blood-stream. That such a route is, to say the least, possible must be conceded, though Spencer does not consider the blood or lymph route of infection as possible. In this connection it must be admitted that the peritoneum resists direct passage through it of pus outside of it; still, if organisms are circulating in the blood or exist in the lymphatics, it does not seem a great stretch of the imagination to conceive of some finding themselves inside of the peritoneal cavity. For the pneumococcus to get from the lung into the peritoneum a blood infection is almost necessary. Fishbein holds that the infective organism is brought by the blood- or lymph-stream to the peritoneum. He further points out that the relationship between pneumonia and primary peritonitis is established, and also that such peritonitis is more common than generally supposed. The point of entrance of the pneumococcus into the blood lies at least outside of the abdomen as no lesion is found in the intestines, and in any case the pneumococcus does not occur normally in the bowel. In this respect it differs from the streptococcus, which has a habitat in the bowel. The entrance of organisms through the lymph-stream must be accepted as possible, though there is the same difficulty in demon-

strating the route as there is with the blood-stream. It has been pointed out by Armstrong, in referring to his cases, that in every instance of primary peritonitis the subject was a female. Again, the possibility of infection passing through the tubes without involving them must be admitted. Such a possibility must be allowed in this instance. It is a well-known fact that minute abscesses may exist in the wall of the appendix; such might suddenly empty themselves into the peritoneum, leaving little or no trace of the origin of the infection. In this case the freedom of the exudate from odour and the purity of the culture almost preclude the intestine as the origin of the infection. The similarity of this case to the pneumococcal type in onset, operation findings, and subsequent course leads to the inference that their origins are similar. In so many infective lesions it is found that organisms are in circulation in the blood, and, indeed, probably such a condition exists without giving rise to any special symptoms or signs in many unrecognised cases. The blood is probably the usual route for the spread of infections. It therefore seems to be the most feasible explanation to accept the view that in this primary streptococcal peritonitis a blood infection was the source from which the organism invaded the peritoneum. The streptococcus must have been in the circulation as a comparatively minor and symptomless infection; it would have remained so had not the peritoneum become so extensively invaded. From the peritoneum the blood was paid back its loan of streptococci with interest, so becoming flooded with the organism.

Bacteriological Findings.

In films made from the pus taken at the time of operation an organism, morphologically a streptococcus growing in stout chains, was found abundantly. It was apparently the only organism present, and grew in pure culture in agar. The same organism was isolated from the blood about forty-eight hours after the operation, less than 2 c.c. of blood being withdrawn from the basilic vein into 20 c.c. of bouillon. The organism obtained from both sources grew fairly readily on ordinary agar, the colonies being at first separate, small, and translucent. In subcultures growth was much more vigorous, and the strain has been kept going now for about six months. Films made from the cultures showed a streptococcus growing in short chains. No capsule formation was apparent in the films, but in view of the comparative frequency of primary pneumococcal peritonitis in children, further tests were carried out

to complete the identification of the organism. From these tests, which are given briefly below, there is no doubt that the causal organism in this case was a true streptococcus.

(1) The organism grew fairly freely from the beginning on ordinary agar, and on gelatin at room temperature without liquefying the medium.

(2) Even after producing a septicæmia in a mouse no capsule-formation could be demonstrated in the organism present in the heart-blood. Richard Muir's method of staining pneumococcus capsules was used in these attempts.

(3) In bouillon a fine flocculent deposit of growth fell to the bottom of the tube.

(4) Various sugar tests were employed. The organism fermented lactose and saccharose, but not inulin. The inulin was used in His's serum water medium and a stock pneumococcus fermented it readily. Salicin was not tried. Milk was made acid but not coagulated. In its fermentative properties the organism thus corresponded with those given for streptococci by Andrewes and Horder.

(5) The organism, finally, was tested for its power to produce hæmolysis. Only some strains of streptococci produce a hæmolysin, but pneumococci never do so at all. The test was made both by the method described by Schottmüller on a blood-agar plate, and by the following more reliable method recently described by McLeod, but used as well by previous authors. The organism was cultivated in bouillon containing 15 to 20 per cent. of fresh horse-serum, previously heated at 57° C. After incubation for eighteen hours at 37° C. the hæmolytic power of the bouillon culture was tested on a 5 per cent. suspension of defibrinated, unwashed rabbit's blood in ·85 per cent. NaCl. Complete lysis of the corpuscles of 1 c.c. of this suspension was produced by 0·02 c.c. of the culture, after incubation for two hours at 37° C. A filtrate of the culture, obtained through a Maassen filter, was also markedly hæmolytic. This test establishes completely the identity of the causal organism as a streptococcus.

Operative Measures.

(1) *Drainage by Douglas's pouch.*—The advantage of drainage by this route in females is obvious. Even in children there is no great difficulty in entering the peritoneum through the posterior vaginal fornix. In males similar advantages are available by perforation of the rectum, but where this manœuvre has been carried out rectal

administration of saline is not possible. Where, however, it is considered necessary to drain Douglas's pouch in males, perforation of the rectum is preferable to the placing of a tube through a supra-pubic opening, which, in a certain number of cases, leads to a fæcal fistula and in all to intra-peritoneal adhesions. The danger of the drainage-tube lies principally in the holes cut in the sides. Those should be elongated, not round. The bowel tends to herniate into the tube through the holes, and a plug of gut-wall is apt to be punched out by the sharp edge of the rubber tube. In opening Douglas's pouch in the female, unless the operator be very expert, it is advisable to place the patient in the lithotomy position at the end of the table. This position allows the forceps handles to be well depressed, and avoids the points being directed against and possibly penetrating the rectum. The cervix should be grasped and steadied by a pair of single-hook tenaculum forceps, while the mucous membrane of the posterior fornix is snipped by scissors. A pair of blunt forceps may then be readily jerked through the remaining partition into the peritoneum. The forceps, preferably slightly curved, must be directed upwards and forwards, keeping close to the uterus, so as to avoid injury of the rectum. Having entered the pouch of Douglas the blades of the forceps are separated and a stout tube is inserted. To avoid damage the inner end of the tube is fringed by snipping all round with scissors for half an inch upwards. Wherever a rubber tube of any degree of rigidity is placed in contact with soft tissues such a plan should be adopted, thereby minimising the risk of the edge of the tube ulcerating into a vessel or a viscus. To simply plunge a pair of forceps through the vaginal vault is not good practice, for the instrument, before perforating the mucous membrane, displaces the uterus, and the points may penetrate the parametrium or rectum, or, by slipping round the cervix, the bladder. If the rectum be injured no great harm results, but such an accident renders subsequent rectal infusion useless. After the tube has been placed *in situ* the rectum should be explored by the finger to ascertain that the tube has not been slipped into it.

(2) *Drainage through the rectum* is a more difficult procedure, and unless the surgeon feels confident that the bladder is well out of danger he had better desist. A catheter should be passed to empty the bladder and to indicate the upper limit of the organ. The finger in the rectum locates the point of the instrument in the bladder, then the blunt-pointed forceps is slipped past the finger and perforates the bowel immediately above the catheter, and so enters

Douglas's pouch. Fortunately, where pus is distending the pouch there is less chance of damaging neighbouring organs, but in recent cases before infiltration or thickening has occurred, and where there is no great tension, such an accident is quite possible.

Whether the opening be made through the vagina or rectum the tube should only penetrate a very short distance into the peritoneum. The free end is stitched to the skin and cut short. The tube should be allowed to remain in position for thirty-six hours. Thereafter, if on examination a further collection of fluid be found, the old opening is readily re-established. The adoption of the Fowler position then becomes of the greatest benefit, as it necessarily encourages rapid and complete emptying of the free collection in the peritoneum.

(3) *Appendicostomy.*—Administration of saline *per rectum* should, of course, be carried out, but such a plan gives nothing like the results of instillation of saline into the cæcum through the appendix. In children it is very difficult to get an efficient infusion *per rectum*.

The technique of appendicostomy need not be discussed, for an ideal operation on account of the exigencies of the case cannot be carried out, but as a temporary measure the more simple, and therefore, the more rapidly performed operation is the best. Its one serious disadvantage is the leaving of a fixed pillar in the abdomen, round which intestine may subsequently become strangled. If time cannot be taken at the operation to prevent the formation of such a trap inside the abdomen, the appendix stump, if the case recover, should be removed before the patient passes out of the surgeon's charge. The amount of fluid thrown into the colon should be a maximum; excess will be quickly voided *per anum*. The infusion may be made more or less nutrient, according to the requirements of the case. The colon may be washed out by this means by syphonage through the tube.

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A CASE OF TUBERCULAR DISEASE OF THE EAR.

By George N. Biggs, M.B.,

Consulting Aural Surgeon, Evelina Hospital for Sick Children; Surgeon in Charge of the Ear and Throat Department, Royal Waterloo Hospital for Women and Children; Assistant Surgeon, Ear and Throat Department, Dreadnought Hospital.

A girl, aged 4 years, was admitted to hospital with a large abscess over the right mastoid process. Facial paralysis was present upon the right side, but there were no other symptoms present.

On examination the right middle ear was seen to be full of granulation-tissue.

A radical mastoid operation was immediately carried out, when the mastoid process was found to be extensively destroyed, the facial nerve being exposed. The remains of the malleus were found, but there was no trace of the incus. No necrosis of the external semicircular canal was present, neither was there any fistula leading through the inner wall of the middle ear into the internal ear.

The mother could not give a satisfactory history of the length of time during which the discharge had been present, but after careful questioning I think that there is no doubt that it had existed for about eight months.

The child was discharged from the hospital and the cavity was almost healed in about two and half months' time.

She did not attend the hospital for some months, but one day she was brought up again with the history that the discharge had been more profuse for about four weeks previously to being brought to the hospital, and that the day before a piece of bone had been syringed out of the ear. On examination this proved to be a sequestrum of about half of the cochlea. The child had had no pain or vertigo, appeared quite well, and no nystagmus was present. She was admitted into the hospital in order to be watched. As however, no symptoms developed, she was discharged in about six weeks, by which time the cavity was quite dry. No bacteriological examination was carried out, as the conditions found at the time of operation left no doubt as to the correct diagnosis. Facial paralysis in children associated with aural discharge and unaccompanied by any symptoms of labyrinthine or intra-cranial disease is pathognomonic of tuberculosis.

Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, April the 25th, 1913.

Mr. A. H. Tubby, *President, in the Chair.*

Two Cases of Hereditary Syphilis treated by Intra-venous Injections of Salvarsan and Neo-salvarsan.—Dr. J. L. Bunch.—Case 1.—The child is now aged 2 years, and was shown at this Section some eighteen months ago. Shortly after birth the child developed virulent symptoms of hereditary syphilis, and, when eight weeks old, was given by me an intra-venous injection of 0·03 grm. salvarsan ("606"). A fortnight after the injection all the syphilitic symptoms had disappeared, and the child had increased 4 lb. in weight and has remained free from symptoms up to now.

Case 2.—The child is now aged 3 months. When aged about 5 weeks he began to show symptoms of hereditary syphilis—rash, muco-purulent discharge from the nose, condylomata, etc. He was admitted to hospital on April the 11th, 1913, when a skiagram taken of the right wrist showed marked disease of the lower end of the diaphysis of the radius, with cancellation and rarefaction of the bone, and periostitis spreading well up the shaft and also involving the ulna. The Wassermann reaction was strongly positive. At 2 p.m. on April the 12th, 0·04 grm. neo-salvarsan was injected into the left external jugular. At 10 p.m. on the same day the temperature rose to 103° F., but fell again next day almost to normal. The pulse rose from 120 to 136 at night. The injection of neo-salvarsan was repeated on April the 19th, and the symptoms have all greatly diminished, with the exception of the bone changes. The mother still suckles the child at the hospital three times a day.

Tuberculosis of Kidney.—Dr. J. Porter Parkinson.—A boy, aged 8 years, with a healthy family history, was admitted into a hospital for children two years ago, shortly after an attack of scarlet fever. He was sounded for stone in the bladder, and then the right kidney was explored from behind, but nothing abnormal detected. The urine, which had contained pus, cleared up, and he was discharged.

On January the 20th, 1913, he was admitted to hospital for pain in the right side of the abdomen of two weeks' duration and wasting. He is thin but not emaciated, the right rectus is at times very rigid, but occasionally a hard tumour may be felt in the region of the right kidney, extending two fingers' breadths below the costal margin; it is sometimes tender. The urine is normal in amount, alkaline, contains a variable amount of pus, and about 0·1 per cent. albumin; no blood. Staphylococci and tubercle bacilli are found in it. X-ray report: Increased density in renal region; several shadows scattered over right loin, suggesting calcareous masses in an enlarged kidney or calcareous mesenteric gland. Two very dense shadows at lower part of right ureter, suggesting calculi or calcareous matter. The left kidney presented nothing abnormal, and there are no bladder symptoms.

The heart and lungs are normal. Temperature as a rule normal, but with occasional rises to 102° or 103° F., apparently due to retention of pus in the pelvis.

The boy's condition has improved in hospital, and the local tenderness and rigidity have disappeared, so it is easy to palpate the diseased kidney. It is proposed to remove the diseased kidney shortly.

A Successful Case of Cerebral Decompression for Convulsions, Jacksonian in Type.—Mr. R. H. Anglin Whitelocke.—A boy, aged 4 years, was admitted at 9.15 p.m. into the Radcliffe Infirmary, Oxford, on February the 2nd of this year, with the history that he had been in perfect health until that morning, when he complained of slight earache. He did not go to school, but in the early afternoon went for a walk. At 5.30 he fell asleep, and at 7.30 awoke feeling sick, complained of headache and soon vomited. Soon after he vomited his face began to twitch, and he began to have convulsions which were confined to the right side of his body. He was at the time quite conscious but spoke indistinctly. As the spasms continued his mother put him into a warm bath and sent for medical assistance. As the fits began to increase in duration and severity the family physician sent him to hospital. The spasms began in the face and rapidly spread to the thumb, wrist, forearm and arm, and then downwards until the lower limb had been completely involved. The child was then hardly conscious. Between the seizures there was but a momentary period of muscular relaxation, and fit followed upon fit with marked regularity. There was no incontinence of urine, and no biting of the tongue. As the condition was steadily becoming worse, and as the fits were entirely localised to the one side, I determined to perform an exploratory operation with the double object either of removing if possible some localised focus of cortical irritation, or of diminishing intra-cranial pressure in the event of there being some more deeply situated cause, such as a neoplasm or collection of fluid.

As the symptoms were so clearly localised and defined the situation chosen for the opening was the neighbourhood of the Rolandic area. As soon as the surgical preparations had been made, and with chloroform anæsthesia, a semicircular flap of skin and pericranium with its base downwards was turned downwards over the side of the head; the bone on exposure presented nothing unusual, though the percussion note seemed a little duller in the region of the parietal eminence. With the aid of a $1\frac{1}{4}$-in. circular trephine a disc was removed, whereupon the dura mater bulged into the space owing to the presence of increased intra-cranial pressure. A flap of dura mater was made and drawn aside. The blood-vessels on the surface of the exposed convolutions were somewhat engorged, but to all intents and purposes the exposed portion of the brain was healthy. A fine exploring cannula was then passed into the cavity of the left ventricle and withdrew a few drops of clear cerebro-spinal fluid. The presence of a deeply placed neoplasm or perhaps a tuberculous focus being suspected, the bony disc was *not* replaced, whilst the dura mater was only partially sutured. The skin flap was restored and held in position by interrupted silkworm sutures to allow of leakage, for no other means of drainage was considered advisable. The fits ceased from the moment the dura mater was incised. The wound healed perfectly, and the child made a complete and uneventful recovery. He is now in perfect health and spirits. The interesting features for consideration are:

(1) The still unascertained cause of illness, no lesion having been found.

(2) The one-sided limitations of the spasms, with at first no loss of consciousness, no incontinence of urine, and no biting of the tongue.

(3) The complete cessation of the fits as soon as the intra-cranial pressure was relieved by operation.

(4) The complete and rapid restoration to health after such a sudden and severe nerve-storm.

The opening in the skull may still be felt, and through it the brain pulsating. A rude cap is worn more as a placebo than a protection. It is advisable not to close the bony aperture for the present, lest there should be a neoplasm; it can always be closed later, if required, by bone-grafting.

Enlargement of the Thyroid Gland in a Family of Five Children, Four Boys and a Girl.—Mr. R. H. Anglin Whitelocke. — The respective ages are: Hurrell 5, George 7, Gwendolen 9, Sidney 10½, and Henry 12 years. The four elder children were born in Surrey, where they lived on high ground, the youngest at Eynsham, near Oxford, a low-lying village near to the Thames. The parents are healthy.

George is said to have been born with an "enlargement in his throat," so that for the first four weeks of his existence his life was despaired of, and the monthly nurse almost daily informed his mother that he could not live. For some months later he was liable on the least excitement to suffer from "fits of suffocation." This went on till he "cut his eye-teeth." Attention was first drawn to the condition of Hurrell and Gwendolen by the school doctor eighteen months ago. Sidney's neck began to enlarge when he was aged ten years; Henry's, the eldest, only became apparent during the last six months, and not before he was approaching the age of twelve years. The eldest boy is said to have been very delicate until he had an attack of typhoid fever three years ago; since then he has grown considerably in size and strength. With the exception of an attack of scarlet fever from which the girl suffered recently, they have all been remarkably free from illness.

During the last eighteen months there has been very little change excepting that George's neck has grown a little larger, and Gwendolen's become less. The eldest boy has only lately come under treatment, for his enlargement has been very gradual and somewhat slow, and is of only recent development.

The pathological condition is probably one of simple parenchymatous enlargement. The glands show equable and general increase, both lobes as well as the isthmus being involved.

Treatment has consisted in an increased weekly pecuniary allowance, the administration of cod-liver oil, iodine preparations, and occasionally iron. The home surroundings have been improved as regards warming, increased light, and general hygiene. This *régime*, steadily enforced for over a year, seems to have arrested the glandular increase in most cases. The congenital case still remains the largest, as may be readily seen by reference to the photograph.

Amongst the interesting points are to be noted:

(1) The existence of the disease in *all* the children of the family, the parents being wholly exempt.

(2) The presence of at least one congenital case.

(3) The enlargement of the thyroids in all the children, whether they lived on bracing and high ground or in the relaxing atmosphere of a low-lying and somewhat damp watershed.

(4) The excellent general health and spirits of the children, in spite of the poor pecuniary circumstances of their parents.

Operative Myxœdema—Cachexia Strumipriva.—Dr. H. Morley Fletcher showed a girl, aged 13 years. In October, 1907, at the age of 7 years, she was admitted to hospital with a small, elastic, freely movable swelling, the size of a marble, medianly situated in the neck at the level of the thyroid cartilage, and apparently attached to the thyroid gland. The swelling was first noticed two years previously, and had been gradually increasing in size. It was removed without difficulty, and was found microscopically to consist of thyroid gland tissue. She was discharged, but was readmitted on November the 22nd, in a state of cachexia strumipriva. Three weeks after the operation she became drowsy, and swelling of the face and hands with puffiness under the eyes was observed. On admission the temperature was subnormal; the urine contained no albumin. She was treated with thyroid extract, and discharged on December the 11th in a considerably improved condition. Treatment was continued intermittently in the Casualty Department until December, 1908, when she came to the Children's Department. She had taken no medicine for at least six weeks, and presented the typical appearance of myxœdema. She was very lethargic, the skin was dry and rough, the hair over the temples very thin. The urine was normal. Pulse 66 per minute; temperature 98° F. Since then she has been taking thyroid extract continuously, but in spite of this has not progressed satisfactorily. The mental condition is good. At the age of 11 years she was in Standard V, but was put back to Standard IV. Bodily growth is fairly normal. She has never menstruated. She still presents a puffy, pallid appearance, suggestive of myxœdema or chronic nephritis, though the urine has been always found to be normal. At times she becomes lethargic, though, as a rule, she is bright and active minded. The addition of supra-renal extract to the thyroid extract has made no apparent difference.

Distal Myopathy.—Dr. E. A. Cockayne.—Boy, aged 6 years. The parents are healthy. There is no history of any similar condition in the family. The patient has two brothers, aged 14 and 8 years, and one sister, aged 10 years, all well-grown and healthy. The mother states that the patient has always been undersized, and has suffered from birth with incontinence of urine and fæces. At three years of age she noticed that he had considerable wasting of the muscles below the knee, and that his buttocks were small. She does not think the wasting has progressed much since it was first noticed. The boy seems to fall over rather easily.

The boy is very small for his age, 37¼ in. in height, but is of normal intelligence. The face, arm and trunk muscles appear natural. There is marked symmetrical wasting of the glutei and of the leg muscles below the knees. The thigh muscles are well developed. There is some deformity of the toes, but all movements can be carried out naturally. There is usually some cyanosis of the legs below the knees. No fibrillation has been observed. Sensation to touch, pain, heat and cold over both arms and legs is natural and muscular sense is preserved. The knee-jerks are brisk, but neither ankle-jerks nor plantar responses could be obtained. There is no change in the electrical reactions. The X rays show a narrow pelvis, and changes in the epiphyses of the long bones characteristic of rickets. The boy has no alteration of gait or ataxia, and complains of no pain, no feeling of cold, or any other subjective symptoms. But for the implication of the glutei muscles the distribution of the wasting resembles that seen in an early case of peroneal atrophy of the Charcot-Marie-Tooth type.

Congenital Absence of Abdominal Muscles and other Defects.—Dr. Bellingham Smith.—Male, aged 2 months, the first child of healthy parents, brought to hospital because "there is something wrong with his stomach." On examination the abdomen is flattened from before backwards, while there is a distinct bulge in either loin, which is markedly accentuated whenever the infant screams or strains. Centrally there is a wide flattened median band, which represents the rectus sheath, stretching from the ensiform to the pubis. If the abdomen is palpated on either side of this central band the coils of intestine can be readily felt, apparently only covered by skin, fascia and peritoneum. The central sheath itself can be easily picked up between finger and thumb, and suggests to the feel merely a band of fibrous tissue without any intervening muscular tissue. The whole of the abdominal wall fails to react to electrical stimulation. The infant also presents other congenital defects. The right leg is kept slightly flexed at the hip- and knee-joints, and is said to be moved but very little. There is a moderate degree of genu valgum and talipes calcaneo-valgus present on both sides; the latter condition is more marked on the right side than on the left. Over the præcordial area there is a faint systolic murmur, which is loudest in the region of the impulse. In all other respects the infant appears to be healthy.

Sublingual Tumour.—Mr. Maynard Heath showed two cases in a girl aged 3 and a boy aged 10 years respectively.

Pathological Specimen: Diphtheria of the Œsophagus.—Dr. J. D. Rolleston.—Boy, aged 6 years. Admitted to hospital on March the 22nd, on fifth day of disease. Death occurred within one hour of admission.

Condition on admission: Profound toxæmia, pulse imperceptible; temperature 99·4° F. Palatal and faucial œdema, membrane on tonsils, pillars and palate, considerable neck swelling, oral fœtor and profuse nasal discharge. Slight stridor, croupy cough and recession.

Specimen shows normal condition of upper part of œsophagus. The lower $1\frac{3}{4}$ in. show longitudinal areas of congestion and submucous hæmorrhages. A small piece of membrane is visible at the upper part of this congested area, and there are larger patches of membrane present at the cardiac end. Membrane was also present in the naso-pharynx, larynx and trachea. Stomach normal. Pure cultures of Klebs-Loeffler bacilli were obtained from lesions in throat and œsophagus.

The following papers were read:

(1) Successful Operation for Strangulated Hernia in an Infant 18 days old.—Mr. R. H. Anglin Whitelocke.

(2) Case Simulating Meningitis in which the Symptoms were caused by the Escape of Thread-worms into the Peritoneal Cavity through a Perforated Appendix.—Mr. R. H. Anglin Whitelocke.

EPIDEMIOLOGICAL SECTION.

January the 24th, 1913.

The Behaviour of Diphtheria in Schools.—Dr. J. A. H. Brincker quoted Shirley Murphy's and Hamer's classical researches on the influence of school life, which increases the incidence of disease between the ages

of three and fifteen, and which decreases the former preference of the bacillus for the female sex, for adults, and for rural rather than urban communities. The existence of carriers was suspected by these authors as far back as 1896. C. J. Thomas divided germ-carriers as follows: 80 per cent. were mild and unrecognised cases, 12 per cent. were healthy contacts from infected houses, 6 per cent. were cases of intermittent or recrudescent infection after discharge from hospital, and 2 per cent. were perfectly healthy. He found the greatest incidence of the disease between the ages of three and five, but the greatest prevalence of carriers in children between five and eight. There has been little diphtheria in London of late, but in the high-lying south-eastern portion of the metropolis, where the housing is new and good, it has been endemic for some years. The epidemics in several schools are then described. In school A a case occurred in the Infant Department in April, 1911, followed by 16 other notifications and 6 deaths. Between August and November 28 other cases occurred in the ward in which the school was situated; 12 of these were school-children; 6 of them were in the infant department, and 3 of them ended fatally. The epidemic continued until July, 1912, when it ended with the commencement of the summer holiday; altogether there were 60 cases with 8 deaths. Two chronic carriers recently discharged from hospital were discovered. In school C between November the 28th and December the 21st, 1911, 20 cases occurred in the mixed department owing to a child ill with the disease attending school for two days. Two carriers were discovered, one of whom had an unhealthy throat on December the 5th and in whom virulent bacilli were discovered on December the 19th. Non-virulent bacilli were isolated from December till March, but he was allowed to return to school from December onwards, and no further spread of the disease was noted. In school D a child was readmitted who had been away from January the 20th to February the 19th with a cold. On February the 20th he was excluded by the school doctor, but re-admitted on a negative bacteriological certificate. As 5 notified cases and 16 bacteriological ones occurred, the child who had been away with a cold was re-examined and found to be harbouring the Klebs-Loeffler bacillus. The intermittency of the power of carrying infection is well shown by a boy, the culture of whose swab resulted in an alternate growth of the Loeffler and Hoffmann bacillus for seven months. In school E in June there were 6 cases in the infant department. The second case was one of nasal diphtheria which had had rhinorrhœa for a month previous to notification. Another case had occurred in the same house about fourteen days before, in a child, a niece of the school teacher. This child had been away from school for some time with rheumatism. The school teacher was examined and was found to have Klebs-Loeffler bacilli in both throat and nose, where they persisted for sixty days. Either she or the second case was the cause of the outbreak.

A most interesting epidemic was reported from a residential school containing 60 girls. It was closely connected with two carrier cases, R. C— and E. M—.

R. C— first had scarlet fever in December, 1910, went to a fever hospital in March, returned and infected twenty of her comrades, and was herself re-notified and sent to hospital, where she remained till May the 27th. On July the 27th, 1911, a girl in same dormitory as R. C— developed diphtheria, where another clinical case occurred next day. Twenty-five were then found to be harbouring Klebs-Loeffler bacilli and four Hoffmann's bacilli. All except R. C— and E. M— cleared up quickly.

R. C— returned from hospital on September the 2nd; Klebs-Loeffler bacilli were found on December the 3rd, she was readmitted to hospital and again discharged on November the 2nd. Two negative results from swabbings were then obtained, but as the third, fourth and sixth were positive, the child was readmitted to hospital on November the 19th, where she remained till April the 4th, 1912. Immediately on return from hospital typical Klebs-Loeffler bacilli were found by the bacteriologists of the Lister Institute, but of no great virulence to animals, and from the nose or throat bacilli were isolated up till May the 31st, On June the 2nd a case was noticed in another child, and consequently R. C— was again sent to hospital on June the 3rd, 1912. In the meantime, E. M—, who went to hospital on August the 18th, 1911, was discharged on November the 8th. On November the 16th, 17th and 18th Klebs-Loeffler bacilli were again isolated from her throat, perhaps contracted from R. C—. She was again sent to hospital till January the 15th, 1912. In June, 1912, she was found to be harbouring bacilli and was again sent to hospital. In hospital no bacilli were found till June the 28th, when typical, but non-virulent bacilli were found in R. C— and E. M—. A similar report was returned on August the 13th. E. M— then became negative and has remained so.

R. C— still continues to give positive results; she has given rise to one epidemic of scarlet fever, two of diphtheria, and has carried bacilli for nineteen months.

The paper ends with the following conclusions:

(1) The carrier problem is of the greatest importance in the control of diphtheria.

(2) A carrier may have never suffered from any disease of the throat and the mucous membranes may appear normal.

(3) The bacilli may be only intermittently recoverable; in such cases they can often be demonstrated in the deep crypts of the tonsil, in the antrum of Highmore, and in the frontal and ethmoidal sinuses.

The following factors influence the control over diphtheria in schools:

(*a*) Inability to examine absentees before return to school or contacts outside school age.

(*b*) Single bacteriological examinations or examination of the throat or nose alone.

(*c*) Absence of control in play hours, Sunday schools, etc.

(*d*) Discharge of cases in an infectious condition from a fever hospital, or the recurrence of the disease on returning home.

(*e*) The predominance of purely nasal carriers.

The means taken to render the carrier harmless are disinfectants, serum, vaccines, and removal of enlarged tonsils and adenoids, but all these measures are only partially successful.

The spraying of the throat and nose three times a day by a twenty-four hours' broth culture of *Staphylococcus aureus* should be tried.

Philadelphia Pediatric Society.

March the 18th, 1913, Theodore Le Boutillier, M.D., President.

SYMPOSIUM UPON THE NERVOUS DISORDERS OF CHILDHOOD.

The Neuroses of Childhood.—Dr. Charles W. Burr read this paper. Everyone is agreed that there exists a particular type of nervous child, characterised by pathological irritability, weakness in withstanding stress, and lack of ability to develop power of inhibition—self-control. There is present a decided lack of will to make effort. The main cause of the condition is heredity. It is evident that the condition is not dependent upon ill-health, nor does good physical health prevent its occurring. To prevent the propagation of such children in the future, Dr. Burr advises a correct education, the teaching of emotional control, not making everything in life easy. Children must be taught self-control (inhibition), obedience, duty, and the love for work.

Dr. J. P. Crozer Griffith: A neurosis is a functional disturbance of the nervous system not dependent upon any structural lesion. This definition gives the neuroses a very wide range. Many doubtless depend upon actual organic change not known to us. Many others are strictly functional, though sometimes the result of organic change outside of the nervous system. Dr. Burr is undoubtedly correct in saying that at least many of the neuroses begin in infancy; there must be some reason why some children develop them and others do not. The intensity of the exciting cause may possibly be greater in one case than in another. I do not feel prepared to believe that all neuroses must depend upon a congenital tendency, and are impressed upon the child for all of its life. Many neuroses are manifested by a spasmodic condition of the body. Among these may be mentioned convulsions, some forms of chorea, tetany, head-nodding, head-banging, laryngismus stridulus. Others have no spasmodic condition, as many forms of headache and night-terrors. Other neuroses might be called visceral, occupying an interesting position among the diseases of early life. Enuresis is a typical common one; closely allied to it is the nervous incontinence of fæces. Anorexia nervosa may exhibit itself in infancy as well as in later life. In a child of fourteen months gavage was necessary for months before the child could be induced to take food. Many forms of vomiting in infancy and early childhood are distinctly neuroses. Recurrent vomiting is probably a neurosis depending upon a toxic state of the system. Here, too, come those curious cases of children who can vomit practically at will, and infants in whom even smiling may produce vomiting. The psychoses and neuroses are very closely related. Some of these pædiatrists would call manifestations of hysteria, which is not uncommon at this time of life. These conditions are made worse by free conversation on the part of the parents regarding the matter in the presence of the child. The symptoms should be described to the physician in the absence of the child, and as little mention as possible be made of them at any time. In the matter of the importance and influence of school life I am somewhat at variance with the speaker. Many children are mentally overdriven, and confinement in school has a bad effect.

Choreas of Childhood.—Dr. T. H. Weisenburg.—Choreas are now divided into infectious and hysterical. It is advisable to abandon the old terms—minor chorea, Sydenham's chorea and St. Vitus' dance. The tendency is to regard chorea as a definite organic disease. Careful investigations have shown that choreas are nearly always preceded by some form of infection, such as an ordinary cold, *grippe*, rheumatism, etc. Not all cases of chorea are preceded by rheumatism, and neither is every case of rheumatism succeeded by chorea, but there is no doubt that chorea is frequently associated with rheumatism. The bacteriological basis has not been definitely established. The present ideas of the pathogenesis are that there are present in the body depths of infection, which as the result of some acute endogenous cause become generally manifest throughout the body, and chorea results. These causes may be fright, anæmia, general nervousness, etc. In the more recent examinations there has been a uniformity of findings, chiefly diffuse areas of encephalitis of a toxic or infectious nature, and sometimes accompanied by meningitis. More specifically areas of inflammation have been found either in the lenticular nucleus or the cerebellum or the tracts coming from it. The most recent views as to the direct mechanism of chorea are that we have to do with spontaneous movements, associated movements, disturbance of co-ordination, and hypotonia. We should expect, therefore, disturbance of the motor and cerebellar apparatus. If, as a consequence, there should be an infectious toxic involvement of the cerebellum and the fibres coming from it, chiefly those of the superior cerebellar peduncle, then the symptoms above enumerated could result. The differential diagnosis between infectious and hysterical chorea should not be difficult, as in the latter there are no evidences of infection, no spontaneous and associated movements in other parts of the body, and no hypotonia. The best treatment is rest.

Dr. Filler referred to a case in a child of 2½ years, one of the youngest on record. This child had tonsillitis, cervical adenitis with suppuration and chorea, following the paroxysms of fear into which the child was thrown whenever its neck was dressed. This chorea lasted eighteen months. Although the tonsillitis may have been the predisposing cause here, undoubtedly fright and shock were the exciting causes.

Dr. H. K. Hill referred to several cases of chorea which he had seen in Professor Monti's clinic in Vienna. Monti suggested that endocarditis might be the cause of both rheumatism and chorea. Dr. Hill has used acetyl-salicylic acid exclusively for three years for chorea with good results, insisting on cessation of school and rest in bed.

Dr. J. F. Sinclair spoke of having employed fluid extract of ergot in the treatment of chorea. One child who had not done well upon arsenic or aspirin, but who had already got well upon ergot, was again cured during a recurrence of the chorea upon ergot.

Dr. Weisenburg added that he did not consider the movements of the choreas of childhood similar to those of the choreas of adults, notably Huntington's type. For some years he has had moving pictures of infectious chorea and hysterical chorea, and repeated studies by this means have impressed upon him the marked difference in the two, which anyone seeing them under such auspices could instantly detect. There is, however, a definite resemblance between the movements of Huntington's chorea and generalised tic. In his experience most cases of fatal chorea occur in young adults, and deaths in young persons are extremely rare.

Epilepsy in Childhood.—Dr. J. Kendric Lloyd read this paper by

invitation. Epilepsy is in more senses than one a disease of childhood. Thus, Gowers found that more than 25 per cent. of all cases began under the age of 10 years, and nearly 50 per cent. between the ages of 10 and 20 years. Spratling in 1302 cases found that 163 cases began in the first year of life, 38·5 per cent. in the first ten years, and 43·5 per cent. in the second decade—or 82 per cent. of all his cases began before the age of 20. Thus it happens that the distinction between infantile convulsions and epilepsy is somewhat arbitrary, and is based largely on the fact that the former are merely transient. But scientific grounds are lacking, because the infantile convulsion is in its form epileptic. In any one of the given cases it would have been impossible at the date of the first fit to say whether it was simply a case of infantile convulsion, or would prove to be one of essential epilepsy. Féré and others look upon all cases of infantile convulsions with suspicion, and believe that there is a neuropathic taint which is the predisposing cause, while the poison of the infectious diseases is merely an exciting cause. Certain it is that some cases of essential epilepsy begin in one of the infectious diseases, such as scarlatina or measles. Reflex epilepsy has rather gone out of fashion; and a microbic origin for epilepsy —such as we have in tetanus—has not been demonstrated. The internal secretions are now attracting much attention, but there is little ground for believing that the cause of epilepsy lies in any one of these secretions. Epilepsy has in a few instances been associated with disease of the thymus or the thyroid glands; and in cases of tumour of the pituitary body epileptic fits (especially of the uncinate type) have been observed, but the fits have not been shown to be an essential part of the picture. As regards surgical intervention, disappointment usually follows on operation. Focal epilepsy no longer has quite the significance it once had, for many cases of essential epilepsy have a focal character, and this is no indication as a rule for operation. We cannot cut epilepsy out of the brain cortex. In traumatic cases surgery may be indicated. In treatment there is not much that is new. The bromide treatment still holds good, and should be combined with the iodides. Hygienic control, with mental and moral discipline, is also unimportant in the case of children, even as much so as drugs. Salt-free treatment, treatment with snake-venom, and with hypophyseal extract, have been advocated of late, but my experience with them is not sufficient to allow me to form a judgment.

Société de Pédiatrie, Paris.

February the 11th, 1913. *Bulletin No. 2.*

The Anti-emetic Properties of Sweetened Condensed Milk.—MM. Variot, Lavialle and Rousselot found that in children admitted into crêches, vomiting in almost all cases ceased or lessened the day following a *régime* of condensed milk, and attribute this to the important modification that the casein undergoes in the preparation of such milk. Condensed milk dissolved in water and treated by an acid yields a turbid fluid, but no separation of curd even after two days. The casein seems to be in a form analogous to the colloidal state and will pass through filter-paper. Under the

same conditions, ordinary sterilised milk gave a more or less solid precipitate of casein mixed with fatty matter. Experiments made to ascertain whether the high percentage of sugar was the cause of the anti-emetic properties gave negative results when the sugar was added to cold sterilised milk, but when heated to 108° for three quarters of an hour, the results seemed analogous to that of condensed milk. The speakers considered that hypersaccharation under the influence of heat modified the casein, rendered it more digestible and arrested vomiting. They found, however, a marked diminution in the quantity of earthy phosphates.

The Efficacy of Rectal Injections in Serumtherapy.—M. GUINON, in answer to the remarks of M. Lesné at the last meeting, related a case of diphtheria of extreme gravity cured rapidly by two rectal injections of 20 c.c.

Congenital Myxœdema.—M. ZUBER showed a man, aged 21 years, the subject of congenital myxœdema as shown by a photograph taken at the age of three months. Thyroid treatment was commenced at the age of eight years. At that time the child was of the weight and height of a child of two years. Under the influence of treatment growth took a normal course, but the child never made up the six years of retarded development either in weight, height, or cerebral activity. He began to speak at the age of nine years, and at the present time had a marked stammer.

Suprarenal Origin of so-called Acetonæmic Vomiting.—M. TERRIEN described three cases of intractable vomiting in children having certain symptoms suggestive of suprarenal insufficiency, asthenia, lumbo-abdominal pains, white line phenomenon, and disappearance of vomiting under the influence of adrenalin. One case in whom it was not administered died suddenly. There was no appendicitis found at the autopsy in this case; the liver was large and slightly fatty.

M. GUINON said he also had obtained good results from the administration of adrenalin, but thought that the causation of such cases was complex, and that the part played by the suprarenals should not be insisted upon merely on account of the disappearance of vomiting.

M. TRIBOULET, recognised the frequency of suprarenal hæmorrhages in cases of sudden death, but thought that intestinal intoxication played the more important part.

Anaphylactic Shock in Diphtheritic Serumtherapy.—MM. HALLÉ and BLOCH reported the case of a boy, aged 2½ years, in whom a re-injection for a relapse fifty days after the first administration of serum caused a series of violent disturbances, intense pruritus, coma, diarrhœa, vaso-motor troubles and purpura. Recovery took place.

Two Cases of Familial Hæmophilia. Hæmophilic Arthritis simulating Osteomyelitis.—MM. MÉRY, SALIN and WILBORTS reported two cases, boys of five years and two years. The first had an arthritis of the left knee with subperiosteal hæmorrhage. The enormous swelling of thigh and increase in size of the lower end of femur resembled osteomyelitis, but the absence of local pain and but slight elevation of temperature contra-indicated it. Injections of anti-diphtheritic serum were given with some benefit. The other child had epistaxis only. In the treatment of this condition fresh horse-serum is much more active than anti-diphtheritic; old serum is useless. Spleen extract is active, and so also is the serum of another hæmophilic.

Fulminating Meningitis in a Girl of 12 months.—MM. Ribadeau-Dumas and Debré.

Collections of Granulations in the Pulmonary Alveoli of Infants.—M. Debré showed a number of skiagrams taken by M. A. Weil.

Vincent Dickinson.

Abstracts from Current Literature.

Medicine.

The leucocytes of healthy children (*'Arch. f. Kinderheilk.,'* 1912, lix, *p.* 161).—**Dina Rabinowitsch** examined the blood of 150 children at different ages, with the following results: (1) In healthy children up to the age of fifteen the total number of leucocytes per c.c. is 6000 to 7000, as in the adult. Sex makes no difference. (2) Polymorphonuclears increase in number with the age of the child. In the first year they form 30 per cent. of all the leucocytes, and in the fifteenth or sixteenth year 70 per cent. as in adults. (3) In the first two years the lymphocytes constitute 60 per cent. of all the white cells, and continually decrease in number, so that in a child of fifteen or sixteen they form about 30 per cent. as in the adult. (4) The number of eosinophiles is on the average 4 to 6 per cent., but it varies within wide limits for children of the same age. (5) The number of transitionals in the child is on the average 2 to 3 per cent. (6) The number of mast-cells in the child is small—about 0·3 to 0·6 per cent. (7) The number of large mononuclears is 1–3·3 per cent., and is about the same for all ages.

J. D. Rolleston.

The coagulation-time of blood in infants and children (*'Amer. Journ. Dis. of Child.,'* 1913, i, *p.* 1).—**H. C. Carpenter** and **J. C. Gittings** review the various methods which have been adopted in the estimation of the time of blood-coagulation, and record the very wide variations which have been found by different observers. They do not regard as satisfactory any method in which the time of coagulation alone is estimated without reference to the consistency of the clot formed. For this reason the authors make use of a modification of the Biffi-Brooks coagulometer. They found the coagulation-time in healthy and unhealthy children to be on an average 9·4 and 9·7 minutes, and they conclude that it seems "very improbable that any important variation exists in the mere time of coagulation of the blood in diseases other than of the so-called hæmorrhagic type." In spite of much careful thought and work the authors do not appear much in favour of the clinical value of estimations of the coagulation-time at present, and state that there is much more study required of blood-coagulation *per se* before satisfactory results can be obtained.

Reginald Miller.

Diagnostic significance of Döhle's inclusion-bodies (*'Deutsch. med. Woch.,'* 1912, xxxviii, *p.* 2454).—**A. Belák** examined eighty-one cases in the St. Johannis Hospital, Buda-Pesth, and came to the following conclusions: The inclusion-bodies have nothing to do with the causal agent of scarlet fever, as they are found in many other diseases, and even in normal blood. A negative result alone is of diagnostic value, as they are always present in scarlet fever.

J. D. Rolleston.

Döhle's inclusion-bodies in scarlet fever (*'Nederland. Tijdschr. v. Geneesk.,'* 1912, II, *p.* 2138).—**J. C. Schippers** and **Cornelia de Lange** examined the blood of twenty scarlet fever patients and twenty controls. In scarlet fever the number of the bodies usually diminished on the fifth day, although they were by no means rarely met with after that date. Numerous bodies were also found in cases of tonsillitis, erysipelas and lobar pneumonia. A dog injected subcutaneously with a streptococcal culture from a scarlet fever case showed inclusion-bodies of the same size, shape, and distribution as those found in man. The writers regard the bodies as a sign of the reaction of the cells to the invading micro-organisms. The diagnostic value of the inclusion-bodies in scarlet fever is limited, but their absence in a disease accompanied by high fever is a strong argument against its being scarlatina. J. D. Rolleston.

The inclusion-bodies in scarlet fever (*'Berl. klin. Woch.,'* 1912, XLIX, *p.* 2124).—**H. Bongartz** examined eighty cases, aged from 5 days to 16 years, in the Nuremberg Children's Clinique. Twenty-one were healthy and 59 were suffering from various diseases. The results were as follows: Of the healthy cases 4 were completely negative, and 17 were positive. Of the sick children 4 were negative, 54 positive and 1 doubtful. The positive cases included 11 of scarlet fever, 6 of diphtheria, 4 of acute bronchitis, 3 of pertussis, 4 of bone tuberculosis, 4 of vomiting and diarrhœa, and the negative cases, measles, heart disease, appendicitis with peritonitis, and a case of surgical scarlatina. In febrile diseases the number of inclusion-bodies increased, and in many cases were found in almost every polymorphonuclear leucocyte. They cannot be regarded as pathognomonic of scarlet fever.

J. D. Rolleston.

Four types of anæmia occurring in children (*'Med. Chron.,'* 1912, XXIII, *p.* 312).—**Hugh T. Ashby** discusses the anæmia which occurs in children in association with tuberculosis, rheumatism, chronic heart disease, and that which corresponds to chlorosis in adults. In tuberculosis he has noticed that marked anæmia is more a feature of such cases as show bronchial gland infection than those of pulmonary tuberculosis, excluding cases of acute generalised miliary tuberculosis. An interesting illustration of the rapid production of anæmia in acute rheumatism is given: in a girl, aged 6 years, in four days the red corpuscles dropped from 5 million to 3,800,000 per c.mm., and the hæmoglobin from 65 to 50 per cent. He agrees with most observers in stating that iron is useless in the treatment of anæmia due to active rheumatism. Reginald Miller.

The anæmia of school-children and its prophylaxis (*'Prag. med. Woch.,'* 1912, XXXVII, *pp.* 633, 648, 663).—**J. Mendl** regards this form of anæmia as so distinctive that he proposes to call it *pseudo-anæmia infantum scholaris*. It cannot be diagnosed without an examination of the blood, both quantitative and in stained specimens. Hence the reports of the school doctors, where the diagnosis is made by simple examination, are absolutely valueless. The blood picture is peculiarly variable, but its most general characteristics are (1) diminution of the polynuclear neutrophile leucocytes, with (*a*) increase of the eosinophiles, mononuclears and lymphocytes; (*b*) increase of the eosinophiles and lymphocytes; (*c*) with increase of the mononuclear leucocytes and lymphocytes (rare); (*d*) with increase of the lymphocytes alone (rare). (2) Increase of the polynuclear neutro-

philes with increase of the eosinophiles, together with diminution of the lymphocytes (rare). The changes are rather qualitative than quantitative. Malnutrition is certainly a factor, but not the chief one; this pseudo-anæmic condition is found in well-fed school-children and among the teachers also. The long hours in the air of the school-room with the physical and mental strain are the chief cause; helminthiasis is another cause never to be ignored. Mendl gives some attention to prophylaxis, which practically includes all that is known by school hygiene—feeding, baths, good ventilation of the school-rooms, and so on. M. D. Eder.

The ætiology of infantile splenic anæmia and its relation to syphilis and tubercle (*'La Pediatria,'* 1912, xx, *p.* 801).—**G. A. Petrone** publishes thirteen cases, which show that this condition may depend on various causes, some known, others unknown or uncertain. In a certain number of cases the cause is congenital syphilis; in others, syphilis in the parents, not being transmitted as such to the child's organism, has only the value of a predisposing cause by weakening the hæmatopoietic organs and preparing them for the action of pathogenic agents which attack them after birth. In some cases bad feeding and digestive toxæmia play a part. Tuberculosis rarely plays a part in the ætiology, and then only as a predisposing or accessory cause. Vincent Dickinson.

Splenic anæmia and splenectomy (*'Austral. Med. Gaz.,'* 1913, xxxiii, *p.* 173).—**T. Ambrose** describes a case of splenic anæmia in a girl, aged 7 years. Splenectomy was refused. The case, which ended fatally, was interesting from the age of the child, the disease being very rare under ten years of age, and also from the fact that injections of adrenalin caused the liver to decrease 4 in. in size. F. R. B. Atkinson.

Leishman's anæmia (*'Arch. f. Kinderheilk.,'* 1913, lix, *p.* 321).—**G. Canonia.**—From October, 1909, when this condition was first described by Jemma, of Palermo, until April, 1911, 29 cases had been recorded (*vide* British Journal of Children's Diseases, 1910, vii, *pp.* 426–7; 1911, vii, *p.* 424; 1912, ix, *p.* 373). Canonia reports 37 more cases: 10 were aged from six months to one year, 18 from one to two, 8 from two to three, and 1 was aged four years. All but two died. The duration of the disease was usually six months. Death was due to cachexia and an intercurrent disease, such as broncho-pneumonia or gastro-enteritis. A large number came from epidemic foci; only a few cases were sporadic. J. D. Rolleston.

Variations in the leucocytosis of the blood in Leishmaniosis (*'Riv. di clin. Pediat.,'* 1912, x, *p.* 889).—**A. Longo** gives details of various cases observed by him, in which he finds that the leucocyte contents in a given subject may vary in the course of a single day from a mild leucopenia (6000–6400) to a severe one (2400–2800), and to these variations he attributes the uncertainty which dominates the hæmatology of Leishmaniosis. Even baths given to reduce hyperpyrexia may convert a severe leucopenia into a slight leucocytosis. This artificially produced condition is not, however, comparable to the variations observed in normal defervescence. Most probably these thermic variations are more apparent than real in the sense that they are due to leucocytic migration from the peripheral circulation to the organs which are the seat of the parasite, and *vice versâ*. Of the various kinds of leucocytes, it appears that the small mononuclears do not share in this migration in which all the other kinds participate. Vincent Dickinson.

Acute lymphatic leukæmia in early life (*'Am. Journ. Dis. Child.,'* 1913, v, *p.* 43).—**A. Strauch** describes the symptoms, with a case in a boy, aged 4 years, ætiology and treatment of this condition, and finds that the lymphatic tissue in children probably reacts more markedly to pathological stimuli than in adults, hence lymphatic leukæmia is prevalent, while the myeloid form is very rare in childhood and is met with in subsequent periods of life. F. R. B. Atkinson.

Myeloid leukæmia in a child, with blood-picture of so-called megaloblastic degeneration (*'Lancet,'* 1913, i, *p.* 94).—**C. H. Treadgold.** —The patient was a boy, aged 13½ years, the chief interest in whose case was the condition of the blood, which showed all possible varieties of nucleated red-cells, numbering at the last examination 184,000 per cubic millimetre. The predominating cell was a megaloblast.

F. R. B. Atkinson.

A family of "bleeders" in Basle (*'Zentralbl. f. Kinderheilk.,'* 1913, xviii, *p.* 1).—**Hagenbach-Burckhardt** describes the genealogy of forty-one ascendants of the family; twenty-three of these were males, and ten were affected. None of the females were "bleeders." In the earlier generation all the males were "bleeders"; in the generation following five out of eleven. Injections of fresh horse-serum seemed to have some beneficial effect in stopping the bleeding. In two cases abscesses of the liver were found on section. F. R. B. Atkinson.

Hæmophilia complicating appendicectomy (*'Med. Press. and Circ.,'* 1912, ii, *p.* 633).—**D'Arcy Power** operated on a Jewish boy, aged 16 years, for appendicitis in the quiescent interval. The removal of the appendix was accomplished without trouble, but it was noticed that the hæmorrhage was more free than usual. On the same evening the boy presented signs of concealed hæmorrhage, and so the wound was reopened and a quantity of fluid blood washed out of the pelvic cavity, but no bleeding point could be discovered. Three days later the abdomen was reopened because of suspected peritonitis; there was no peritonitis, but there was a further accumulation of blood in the retro-cæcal region. The boy died the same evening. A post-mortem examination was not allowed, but the case was apparently one of hæmophilia—a most dangerous complication in this otherwise simple operation of appendicectomy. J. Allan.

Hæmophilia treated by human blood-serum (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 44).—**A. H. Traver** reports the case of a boy, aged 5 years, who suffered from hæmophilia, and was one of a family of bleeders. In September he slightly bit his tongue, but the bleeding persisted for six days and was not controlled by tannic acid, epinephrin or injection of horse-serum. Finally, serum was obtained from the blood of the patient's father, and 20 c.c. were injected subcutaneously into the child's buttocks. Within twenty minutes a firm clot began to form on the tongue. It gradually increased in size for twelve hours until it became so large that it was difficult for the child to close his mouth. The clot was consequently removed, but without any recurrence of the hæmorrhage. Two more injections were given as a measure of precaution, but they scarcely appeared necessary as there was but slight bleeding after the first. The child has had no subsequent injury, and it remains to be seen if hæmorrhage is troublesome in the next accident. T. R. Whipham.

Infantile scurvy and modern conditions (*'Arch. of Ped.,'* 1912, xxix, *p.* 665).—**W. P. Northrup** gives an account of the cases of infantile scurvy which occurred in America at the time when the disease was first recognised as a separate entity in England. He thinks the frequency of the disease will probably increase in future years. REGINALD MILLER.

Cases of infantile scurvy (*'Arch. of Ped.,'* 1912, xxix, *p.* 857).—**C. A. Frost** narrates two cases in children 2 years and 15 months of age respectively. F. R. B. ATKINSON.

Injections of peptone as a cure for Barlow's disease (*'Riv. di clin. Pediat.,'* 1912, x, *p.* 944).—**G. Funaioli** describes the case of a breast-fed infant, aged 7 months, suffering from infantile scurvy, to whom he administered for three days 5 c.c. of a solution composed of Witte's peptone gr. v, sodium chloride gr. v, distilled water gr. cl. Marked improvement followed, and the injections were continued every other day, then every third day, until nine had been given. VINCENT DICKINSON.

The condition of the blood in the rheumatoses (*'Jahrb. f. Kinderheilk.,'* 1913, lxxvii, *p.* 53).—**J. Tallend** describes under the term rheumatoses, rheumatism, chorea, and endocarditis, and finds that in these three conditions if the disease becomes aggravated the hæmoglobin and red blood-corpuscles decrease in amount and number, and the leucocytes, especially the neutrophiles, increase; as the conditions improve the reverse takes place. F. R. B. ATKINSON.

Diseases of the circulatory system in children (*'Arch. de méd. des enf.,'* 1913, xvi, *p.* 11).—**S. Moreira** has found in 16,658 children ill with various complaints 16 cases (0·09 per cent.) suffering from lesions of the heart, and 1 case (0·006 per cent.) from lesions of the vessels. The lesions were as follows: aortic disease, two cases; pulmonary disease, four cases; mitral disease, ten cases. Examination with the sphygmogram showed dicrotism in three cases out of fifteen, marked catacrotic pulse twice, and subdicrotism ten times. F. R. B. ATKINSON.

Blood-pressure in children (*'Arch. de méd. des enf.,'* 1913, xvi, *p.* 102).—**Mello-Leitão** examined the blood-pressure of normal children aged from one month to five years with Erlanger and Hooker's sphygmomanometer and arrived at the following conclusions: The blood-pressure in children is normally low. It varies from 62–68 mm. Hg. in the second month of life and gradually rises to 78 and 100 mm. in the seventh month. From the seventh to the eighth month the readings were from 78–84 mm., but no breast-fed children at this age were examined. From the eighth month to five years the blood-pressure remained almost the same, but on the whole showed an upward tendency. The pulse-pressure increased slowly, and was relatively higher than in adults: in the second month it was 18 mm. Hg., in the seventh month 28 mm., and from the eighth month until five years it varied from 20–34 mm. Sex and race had no influence on the blood-pressure in childhood. Artificial or mixed alimentation had a decidedly hypotensive action. J. D. ROLLESTON.

Rigidity of the arteries in children (*'Wien. klin. Woch.,'* 1912, xxv, *p.* 920).—**W. Rittenhouse** examined 250 children from two to fourteen years

for arterial rigidity, to the presence of which in children Hamburger had recently drawn attention (*vide* British Journal of Children's Diseases, 1911, viii, *p.* 470). None of the patients were febrile or severely ill. The results were as follows: There was not a single case of palpable arterial wall in the second year, and a high degree of rigidity was found only after the tenth year. Up to the sixth year the frequency of temporal rigidity exceeded that of radial rigidity, while after the seventh year the reverse was the case. A slight degree of rigidity was extremely common in children after the seventh year; at puberty it was found in 80 per cent. and was more frequent in the radial than in the temporal artery. In a large number of cases, though the artery was rigid the blood-pressure was low, so that no causal connection could be traced between the two phenomena. Like Hamburger, the writer found that all the children with a high degree of arterial rigidity complained of nervous symptoms. As the nervous excitement subsided, the rigidity disappeared. J. D. Rolleston.

Thrombosis in the confluens sinuum (*'Lancet,'* 1913, i, *p.* 453).—**James Rae** records the case of a boy, aged 4 years, with chronic internal hydrocephalus, who died of right lobar pneumonia. The confluens sinuum contained a pyramidal blood-clot which lay with its apex directed towards the straight sinus. Its weight was just under ¼ oz., and its cut surface was visibly laminated. No organisation was in progress. A few tuberculous glands were found in the thorax and abdomen. During life it was noted that the frontal and the right angular veins were very prominent, and at the necropsy the veins of the cerebellum, those passing through the right foramen cæcum and the Sylvian veins were much dilated. The sinuses of the dura mater were greatly enlarged. The case appears to be unique. Author's Abstract.

Fatal post-operative thrombosis (*'Austral. med. Gaz.,'* 1911, xxx, *p.* 673).—**F. J. E. Juttner** narrates two cases, one of thrombosis of the cœliac axis and superior mesenteric artery following tonsillectomy in a girl, aged 12 years, and the other in a girl, aged 18 years, of thrombosis and cerebral embolism following appendectomy. There was no autopsy.
F. R. B. Atkinson.

Cavernous sinus thrombosis (*'Practitioner,'* 1913, xc, *p.* 562).—**A. Dighton** states that a case of his occurring in a girl, aged 13 years, is the only case of this affection reported cured. F. R. B. Atkinson.

Traumatic rupture of the thoracic aorta (*'Austral. Med. Journ.,'* 1911, i, *p.* 115).—**H. I. Holmes.**—A boy, aged 15 years, whilst cycling collided with the shaft of a carriage, was picked up in a state of collapse, and died seven hours after the accident. Holmes considers that the rupture of the aorta found on section was due to either direct transmission of the force, or to the compression the aorta received owing to its close position to the vertebral bodies. F. R. B. Atkinson.

A case of congenital aortic stenosis (*'Écho méd. du Nord,'* 1913, xvii, *p.* 108).—**Pierret** and **E. Verhaeghe** report a case in a youth, aged 16 years. The ventricles were much dilated; dyspnœa occurred on the slightest exertion. There was a marked systolic aortic murmur propagated to the carotids with its maximum at the second right intercostal space.
F. R. B. Atkinson.

Congenital dextrocardia (*'Thèses de Paris,'* 1912–13, *No.* 107).—**Mme. Culcer-Petresco** has collected fifty-eight cases, including one hitherto unpublished in a girl, aged 9 years, in whom dextrocardia was associated with interventricular communication. Of the fifty-eight cases, twenty were accompanied by total or partial inversion of other organs, but without malformation. Twenty were examples of dextrocardia pure and simple, and the rest showed cardiac or vascular malformations as well. Two thirds of the cases were in males, and one third in females. Dextrocardia by itself is compatible with a long and laborious life, but when malformations are associated with it, with very rare exceptions life is impossible, or at least considerably shortened.

J. D. Rolleston.

Bradycardia in mumps (*'Thèses de Paris,'* 1912–13, *No.* 173).—**G. C. Roux.**—The thesis is based on the study of 274 cases, 230 of whom were adults or adolescents and 44 children from three to fifteen years. The writer's conclusions are as follows: (1) Bradycardia is an almost constant symptom of mumps. It is of diagnostic value in doubtful cases, especially when the parotid swelling is no longer appreciable. (2) The degree of bradycardia is usually moderate—50 per minute, the lowest observed being 40. It is not accompanied by any of the functional troubles met with in pronounced bradycardia. (3) Tracings show that the bradycardia is complete, and that there is no disturbance of conductivity of the bundle of His. (4) It should be classified among the nervous bradycardias. It is transitory, variable, and attenuated by change of position, effort, respiration, deglutition, emotion, or fever. It disappears after sufficient doses of atropine sulphate. (5) Only exceptionally can it be reproduced experimentally in the dog by injection of the serum of patients suffering from mumps. (6) It appears to be due to a very slight degree of meningeal involvement, which is an almost constant accompaniment of mumps, as shown by clinical symptoms and examination of the cerebro-spinal fluid (*vide* British Journal of Children's Diseases, 1907, iv, *p.* 308, and 1911, viii, *p.* 275).

J. D. Rolleston.

Ophthalmology.

On the duty of the practitioner in cases of ophthalmia neonatorum (*'Lancet,'* 1912, ii, *p.* 1358).—**Sydney Stephenson** describes the duty of the practitioner in dealing with cases of ophthalmia neonatorum under the following three heads: (1) prevention; (2) notification; (3) treatment. Preventive measures ought to be adopted at every birth. Two classes may be distinguished: (1) Where the existence of gonorrhœa is not and (2) where it is suspected. In the second simple cleansing of the eyes after the head is born will suffice. In the first class the use of a germicide dropped into the eye is essential. One per cent. solution of nitrate of silver is the best, and is to be preferred to the 2 per cent. solution advised by Credé. Other agents of this nature are argyrol (15 per cent.), protargol (10 per cent.), and sophol (5 per cent.). Additional precautions to be adopted in every case are first to cleanse the baby's hands and wrists soon after birth so as to prevent auto-inoculation of the eyes, and secondly, to take care that the attendant does not use the same water for the baby's face and body in the course of the first bath. All cases should be notified. In

treatment, thorough cleansing by frequent lavage is most important. Perhydrol (pure acid-free peroxide of hydrogen) is invaluable in getting rid of the discharge. Between the ablutions the conjunctival sac should be filled with pure vaseline or with bleno-lenicet. This latter is a salve which contains 5 to 10 per cent. lenicet (basic aluminium acetate) in euvaseline, an ointment basis of white vaseline, lanoline and ceresin. Instillation of silver nitrate solution 10 gr. to the ounce is advised. When the discharge has almost ceased zinc chloride drops (1 gr. to the ounce) are recommended. In treating corneal ulceration the author employs eserine (2 gr. to the ounce) in preference to atropine, and if matters do not speedily improve the best plan is to apply the cautery without further delay. J. Allan.

Sight-saving as a national movement (*'Therap. Gaz.,'* 1912, xxxvi, *p.* 859).—**E. Park Lewis** emphasises the great importance of preventive measures as compared with curative ones. It was recommended that if on the first page of each school book were placed simple directions as to the proper care of the eyes, it would be of help to the young student and even to the teacher. Regarding ophthalmia neonatorum, (1) every birth should be promptly reported; (2) every inflamed eye in a newborn child should be reported at once; (3) the department of public health should be vested with authority to take care of all such children as are not receiving care—at once—and should make a complete report from time to time of the number of cases of ophthalmia neonatorum, with an exact statements of the end-results; (4) failure to report cases should be heavily penalised. Educational measures—through lectures, circulars, public exhibits, etc.—the demand on the birth report as to whether a prophylactic has been employed, even the gratuitous distribution of the prophylactic, important as these are, are all secondary and subsidiary to the enactment of suitable laws and the development of public sentiment that will insure their enforcement.

J. Allan.

Treatment of ophthalmia neonatorum (*'Therap. Gaz.,'* 1912, xxxvi, *p.* 691).—**A. Brav** emphasises the importance of preventive measures and points to the value of Credé's method as a prophylactic agent. In treating cases cold compresses are useful, as they reduce inflammation and swelling and relieve blepharospasm. Antiseptic lotions are essential, and the best is bichloride of mercury solution 1 in 10,000, which should be used to irrigate the conjunctival sac every half hour for the first two days; 25 per cent. argyrol drops may be instilled after irrigation. A 1 per cent. solution of silver nitrate may be painted on the everted lids, but this should only be done by the physician himself. If there is any corneal ulceration the best thing to do is to use iodoform powder daily dusted upon the ulcerated area. Dionin powder is a useful adjunct, especially when the ulcer is beginning to heal; it greatly reduces the opacity. The author does not favour cauterisation of the ulcer. In his opinion all cases of ophthalmia neonatorum should be treated at home. J. Allan.

Ophthalmia neonatorum and its relation to blindness (*'Therap. Gaz.,'* 1912, xxxvi, *p.* 861).—**E. B. Heckel** refers to the malignancy of this type of inflammation and its causation of many cases of blindness. Prophylactic measures have in recent years reduced the number of cases. Much good has been and will be done by legislation. J. Allan.

Gonorrhœal ophthalmia treated with gonococcus vaccines (*'Med. Record,'* 1913, I, *p.* 428).—**W. K. Mittendorf** records nine cases, six of which occurred in infants aged from 3 days to 1½ years. A satisfactory result was obtained in each case with almost immediate reduction of the inflammation. Fifty million gonococci were given as an initial dose and 100 million in subsequent doses. The vaccine should not be used alone but be combined with local treatment. J. D. Rolleston.

Non-gonorrhœal ophthalmia in the newborn and in infants (*'Deut. med. Woch.,'* 1913, xxxix, *p.* 74).—**C. Credé-Hörder.**—Macroscopically this affection does not differ from a commencing or healing true gonorrhœal ophthalmia. The cornea, however, is not affected, and the secretion is scanty and serous rather than purulent. The course of the disease varies according to the causal micro-organism. Ophthalmia caused by Gram-positive diplococci occurs chiefly in infants, not in the newly born. The secretion is serous and contains only traces of pus. Cleansing with boric acid solution produces a cure in eight to ten days. Pneumococcal ophthalmia is much more severe. Three cases of *B. coli* ophthalmia which occurred on the fifth, seventh and eleventh days of life lasted from four to nine days. The secretion was chiefly serous. As a rule non-gonorrhœal ophthalmia is a harmless disease, but if untreated it may lead to chronic conjunctivitis.

J. D. Rolleston.

Meningococcus conjunctivitis (*'Ophthalmoscope,'* 1913, xi, *p.* 75).—**H. McKee.**—A girl, aged 6 years, was admitted to hospital on the fourth day of epidemic cerebro-spinal meningitis. She had marked conjunctivitis with muco-purulent discharge, examination of which showed meningococci. Conjunctivitis is frequent in epidemic cerebro-spinal meningitis and is usually an early symptom, so that, as in this case, the diagnosis of meningococcus infection may be made before lumbar puncture. J. D. Rolleston.

Tuberculous membranous conjunctivitis (*'Arch. d'ophtalmol.,'* 1912, xxxii, *p.* 693).—**D. Gourfein.**—A girl, aged 6 years, developed swelling of the right upper lid. It was readily everted, and showed a greyish membrane lining the palpebral conjunctiva. The ocular conjunctiva was injected. There was no membrane on the lower lid. The preauricular, parotid and submaxillary glands were swollen. The general condition was bad, and the temperature high with marked evening rise. The eye was treated with 1 in 3000 perchloride lotion and hot compresses. The preauricular and parotid glands suppurated, but the conjunctivitis cleared up entirely. Examination showed the presence of virulent tubercle bacilli. When seen eight years later the child was in good health. J. D. Rolleston.

Ætiology of phlyctenular conjunctivitis (*'Thèses de Paris,'* 1912–13, *No.* 4).—**C. Goulfier.**—Phlyctenular conjunctivitis is more frequent in girls than boys. It is rare in the first year of life, is most frequent between two and six, and then progressively decreases till twenty. A few cases are found between twenty and thirty; subsequently it is most exceptional. The season of its greatest frequency begins in April and reaches its maximum in May and June. It is an affection of the poorer classes, but is occasionally found in the well-to-do. Its origin has been sought for in various external causes such as foreign bodies, chemical irritants, parasites, and infections of the neighbouring tissues; but clinical and experimental evidence show that

these causes are not sufficient to produce it. It is usually associated with scrofulo-tuberculous infections, though never with phthisis, rhino-pharyngeal affections, and impetigo of the face and scalp. A positive reaction to tuberculin is obtained in 93·75 per cent., and in most cases indolent glandular or visceral lesions are present. Experimental attempts to inoculate the anterior chamber of the rabbit, guinea-pig or monkey with phlyctenular conjunctivitis have always failed. At present it must be left undecided whether phlyctenular conjunctivitis should be regarded as an attenuated form of tuberculosis or as a banal affection grafted on a special soil, which in most cases is tuberculous. The thesis contains the histories of thirty-eight cases. J. D. Rolleston.

Infective optic neuritis in measles and scarlet fever (*'Arch. f. Augenheilk.,'* 1912, lxxi, *p.* 1).—**A. Dutoit** records three cases. (1) Girl, aged 5½ years. On the fifteenth day of a mild attack of measles the temperature, which had been normal for two days, rose again. Ophthalmoscopy showed papillitis and retinal hyperæmia of the right eye; the left eye was normal. Recovery in eighteen days. (2) Boy, aged 8 years. Papillitis and limitation of visual field of right eye, accompanied by rise of temperature and anorexia on seventeenth day of measles. Recovery in thirty-three days. (3) Girl, aged 7½ years. Papillitis and retinal hyperæmia of left eye with limitation of visual field on nineteenth day of scarlet fever. There were headache, anorexia, and slight albuminuria. Improvement in a fortnight, but relapse of symptoms on the twentieth day after the onset of the neuritis, accompanied by tonsillitis. Complete recovery in another eighteen days. The cerebro-spinal fluid in each case was normal. J. D. Rolleston.

Familial amaurotic idiocy (*'Journ. de méd. de Bordeaux,'* 1913, xliii, *p.* 46).—**Anglade** showed a girl, aged 6 years, suffering from this disease, at the Soc. de méd. et de Chir. de Bordeaux. There was no other case in the family. A white streak with a red centre was present in the region of the macula of one eye, and a congenital cataract in the other.

F. R. B. Atkinson.

Exophthalmos in scurvy (*'Journ. Amer. Med. Assoc.,'* 1912, lix, *p.* 2040).—**L. R. De Buys** finds that the occurrence of exophthalmos in scurvy is scarcely mentioned in the text-books, and he has only been able to collect from the literature twelve previously reported cases. It appears that the protrusion of the eye may be of variable degree, and may occur at any time during an attack of scurvy. Sometimes it appears suddenly after a fit of crying. Extreme exophthalmos is rarely seen, though protrusion of the eyeball may occur in from 6 to 11 per cent. of cases. The condition may be caused by ecchymoses into the areolar tissue of the orbit or by subperiosteal hæmorrhage. The exophthalmos may appear in one or both eyes and there may be an improvement followed by a recurrence. The symptom is usually a late manifestation, though it may be an early and perhaps the only evidence of the disease. The writer reports an instance in a girl, aged 11 months, in whom the first thing noticed was a protrusion of the right eye after a fit of crying accompanied by discoloration and swelling of the lids. The condition subsided, but recurred three weeks later, and again improved to a certain extent. Suddenly the protrusion again became more marked and slowly increased, but there was no discoloration. When seen, the

child, who was rickety, presented evident signs of scurvy. Under treatment with orange-juice the exophthalmos and scurvy rapidly disappeared.

T. R. Whipham.

Ganglionic glio-neuroma of the optic nerve (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 363).—**G. C. Ruhland.**—A girl had some "eye trouble" at the age of six. One and a half years later she contracted scarlet fever, followed by rapidly developing exophthalmos and complete blindness in the affected eye. Enucleation was performed, and an encapsuled tumour 3 cm. long by 1·5 cm. wide was found in the position of the optic nerve. The eyeball itself was not affected. Microscopical examination showed neuroglia forced apart by hæmorrhage and œdema, and also ganglion cells and nerve-fibres.

J. D. Rolleston.

The sociological aspect of errors of refraction (*'Therap. Gaz.,'* 1912, xxxvi, *p.* 861).—**Zentmayer** points out that uncorrected errors of refraction may give rise to serious diseases of the eye at a later date. Eye-strain in the school-child is discussed, as was also the possibility of ametropia being a cause of reflex epilepsy. There should be a State law compelling the thorough examination of the eyes of children in school by competent ophthalmologists. A campaign of education of the public should at once be started as to the danger of entrusting the examination of the eyes and the treatment of defective vision to those whose only qualification is their assurance, and their only aim the successful accomplishment of a business transaction.

J. Allan.

Reviews.

Les épanchements du péricarde: Étude clinique et thérapeutique. (Pericardial Effusion: A Study of the Clinical Features and Treatment.) By Le Docteur Germain Blechmann. Pp. 349, figs. 40. Paris: J. B. Baillière et Fils, 1913. Price 8 francs.

This monograph, which emanates from the clinic of Professor Marfan at the Hôpital des Enfants Malades, Paris, is extremely valuable on account of the exhaustive manner in which the subject is dealt with. The author has utilised to the full the statistics and work of English-speaking writers, scrupulously acknowledges his indebtedness, and supplies a bibliography with 472 references. The three signs which he regards as most important in the diagnosis of pericardial effusion are: (*a*) from its constancy, Rotch's sign, or dulness in the most internal part of the right fifth intercostal space; (*b*) from its frequency, Pins' sign, or evidence of a pleural effusion at the left base, which disappears when the patient is placed in the genu-pectoral position; and (*c*) Hirtz's sign, or the assumption by the patient of the genu-pectoral position in order to obtain relief from the intense dyspnœa caused by a large pericardial effusion. Descriptions and critical considerations of other physical signs are also given, and the whole question of diagnosis is dealt with in great detail. In the important section on treatment a prominent place is given to Marfan's epigastric puncture in the xipho-costal angle, the technique being illustrated by a figure. In one patient this procedure was carried out on no less than seventeen occasions.

The operation of opening the pericardium by the epigastric route was originated more than a hundred years ago by Larrey (1798), but was forgotten, and was re-discovered independently by Jaboulay in France, and by Herbert Allingham and C. Ogle in this country in 1900. In conclusion, this work must long remain a most valuable source of reference on the diagnosis and treatment of pericarditis with effusion. H. D. R.

Eye-Strain in Everyday Practice. By Sydney Stephenson, M.B., C.M.Edin., D.O.Oxon., F.R.C.S.Edin., Ophthalmic Surgeon to the Queen's Hospital for Children, London. London: The Ophthalmoscope Press, 1913. Pp. 139. Price 3s. 6d. net.

This is a collection of articles which have appeared in various journals at different times during the last ten years, and include the Richard Middlemore Post-Graduate Lecture. The author lays particular stress on the frequency of eye-strain as the cause of headaches, and draws attention to the fact that in eye-strain the vision is commonly normal for Snellen's types, and hence the condition is likely to be unnoticed. It is important that the eyes should be fully under the influence of a cyclopegic for the purposes of estimating the error of refraction. The symptoms of ocular headache are described, and the chapter should be thoroughly read by all general practitioners. A chapter is devoted to the condition of pseudo-neuritis, and the differential diagnosis between this condition and true neuritis clearly given. Space will not permit of any further description of the various conditions described in the book, but we can heartily recommend it to every general practitioner as one which should be carefully read and its contents remembered. F. R. B. A.

Guy's Hospital Reports. Edited by F. J. Steward, M.S., and Herbert French, M.D. Vol. LXV. Pp. 412. London: J. & A. Churchill, 1912. Price to non-subscribers, 10s. 6d.

The present volume contains much of pædiatric interest. The first article, by Dr. Frederick Taylor, deals with "Fifty-five Cases of Acute Poisoning by Opium or Morphia at Guy's Hospital between 1898 and 1911." Five occurred in children between three months and four years, all of whom recovered. Among the studies emanating from Dr. Hertz's Neurological Department is a note by Dr. W. Johnson on "Mental Deficiency in Children, with Special Reference to the Influence of Congenital Syphilis." Mr. George Kendall and Dr. A. F. Hertz contribute a paper on "Hereditary Familial Congenital Hæmorrhagic Nephritis." Two generations were affected, three out of eight in one generation, and eight out of eleven in the next. In one case abnormal urine was discovered when the patient was only three weeks old, in another at the age of two years, and in the remaining cases in early childhood. Dr. N. I. Spriggs writes on "Congenital Intestinal Occlusion," giving an account of twenty-four unpublished cases, followed by a commentary and extensive bibliography. "Metabolism during Rectal Feeding" is discussed by Messrs. N. Mutch and J. H. Ryffel, who append a "Note on the Presence of Creatin in the Urine of Children." In his Cambridge M.D. thesis, on "The Ætiology of Melæna Neonatorum, with Special Reference to Duodenal Ulcer," Dr. Wilson Tyson records the histories of two personal cases, of seventeen cases which occurred among 21,119 births at Queen Charlotte's Hospital between 1896 and 1910, and of one case at Guy's Hos-

pital. Dr. Herbert French describes a case of "Traumatic Aneurysm of the Heart" in a girl, aged 3 years, resulting from a fall from a third-storey window to the ground. No definite cardiac symptoms were produced during life, but sudden death by spontaneous rupture of the left ventricle occurred on the twentieth day after the accident. Dr. French also contributes a paper on "Adrenal Hypernephroma" in a girl, aged 6 years, who developed pubic hair and hypertrophy of the clitoris when she was eight months old. Death took place five days after the removal of the tumour, and was partly due to metastases in the lung. J. D. R.

Report to the Local Government Board upon the "Biological Properties" of Milk, both of the Human Species, and of Cows, considered in Special Relation to the Feeding of Infants. By Janet E. Lane-Claypon, M.D., D.Sc.Lond. London: H.M. Stationery Office. Pp. 95. Price 9d. (New Series, No. 76.)

It is a matter for congratulation that such reports as the present and one (No. 63) previously reviewed in this Journal * are being published by the Local Government Board. They deal with subjects in infant feeding which are so complex and abstruse as to be almost outside the domain of clinical medicine: yet there is no doubt that such research is of great and increasing assistance to clinical work and public health.

In her present report Dr. Lane-Claypon deals with the ferments and "protective substances" in human and cow's milk, discussing their presence, origin and value. The conclusions reached are of considerable interest in view of the widely differing views taught by various authorities. The most definite and important conclusion reached in the report may be given: "Most of the ferments concerning whose presence in milk so much has been heard of in the last ten years are derived from the bacteria which are found in milk. There is no evidence to show that uncontaminated milk contains any ferments capable of assisting in the digestion of food by any of the processes of digestion known to us. The only ferments present in uncontaminated milk are those which are well known to be present in large quantities in the blood, and ferments (whose presence is not firmly established) which act upon substances not known to occur in the processes of digestion."

These and other conclusions are reached by the author's personal work and a review of the researches of others, and we congratulate Dr. Lane-Claypon on the report she has produced. R. M.

* The British Journal of Children's Diseases, 1912, ix, p. 432.

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Original Articles.

A CASE OF SEVERE *B. COLI* INFECTION OF THE URINARY TRACT; NEPHRECTOMY; RECOVERY.

By HAROLD W. WILSON, M.S., F.R.C.S.,

Assistant Surgeon to St. Bartholomew's Hospital and to the Cancer Hospital.

THE patient was first seen by me on December the 31st, 1912, in consultation with Dr. Dottridge, of Godalming, to whom I am indebted for full notes of the case. Dr. Thursfield had also seen the case one week previously, and I had the advantage of his opinion when considering the advisability of an operation.

A girl, aged 7 years, became acutely ill on December the 5th, 1912, and complained of headache and sore throat, with pain on the right side of the chest and abdomen. Up to this time she had been in good general health. She had always been constipated since birth, the bowels seldom being opened without medicine. For two years there had been some urgency of micturition, and for the last six months occasional incontinence of urine had been noticed in the daytime only.

By December the 8th there were definite signs of pneumonic consolidation at the right base, with a temperature of 104·8° F. and a pulse of 120.

The abdominal pain had disappeared and there was no tenderness

or rigidity of the abdomen. The spleen was palpable. Urine acid, specific gravity 1018; no albumin or turbidity. On December the 10th the urine, although still quite clear, contained a trace of albumin, and on the 13th, when the temperature fell by crisis, there was pain in the front of the left loin, and on the next day pain in the right loin. The abdomen was distended and there was marked enlargement of the spleen, but no tenderness could be elicited. Blood examination showed 10,000 leucocytes and 3,000,000 red corpuscles.

On December the 15th more definite urinary symptoms developed. Micturition became very frequent and painful, with occasional incontinence. There were constant pain, tenderness and rigidity in the right loin, but no symptoms on the left side.

The urine was alkaline and offensive, contained a fair amount of pus, and gave a pure growth of typical *B. coli communis* on culture. An autogenous *B. coli* vaccine was given, but this state of affairs, with a nightly rise of temperature to 104° or 105° F., continued until December the 31st, when I first saw the patient (Fig. 1.)

At that time the general condition was bad. The physical signs at the right pulmonary base had cleared up, but the pulse was feeble and intermitting with the heart apex-beat well outside the nipple line. There was muscular rigidity in the right loin, and next day, under an anæsthetic, the right kidney was definitely palpable and tender.

On January the 1st, 1913, the right kidney was exposed by the usual lumbar incision, and nephrectomy performed as quickly as possible. There was much œdema of the peri-nephric tissues. The kidney was about one and a half times its usual size, was much engorged, and showed on its surface numerous small whitish areas. These areas varied in size between a pin's head and a shilling, were definitely raised above the surface, and were surrounded by a deep red blush of congestion (Fig. 2).

The extra-renal pelvis and upper three inches of the ureter were not dilated or tortuous, and, except for some dilated vessels running on their surfaces, appeared natural.

The child made a good recovery, and except for a rise in temperature on the fourth, fifth and sixth days after the operation, due to absorption from the deeper parts of the wound, her subsequent progress gave little further anxiety. The only real trouble was a most obstinate constipation with the passage of very offensive motions. This eventually reacted to drop doses of tinct. iodi and oil of izal, and by February the 27th, nearly two months after the operation, the

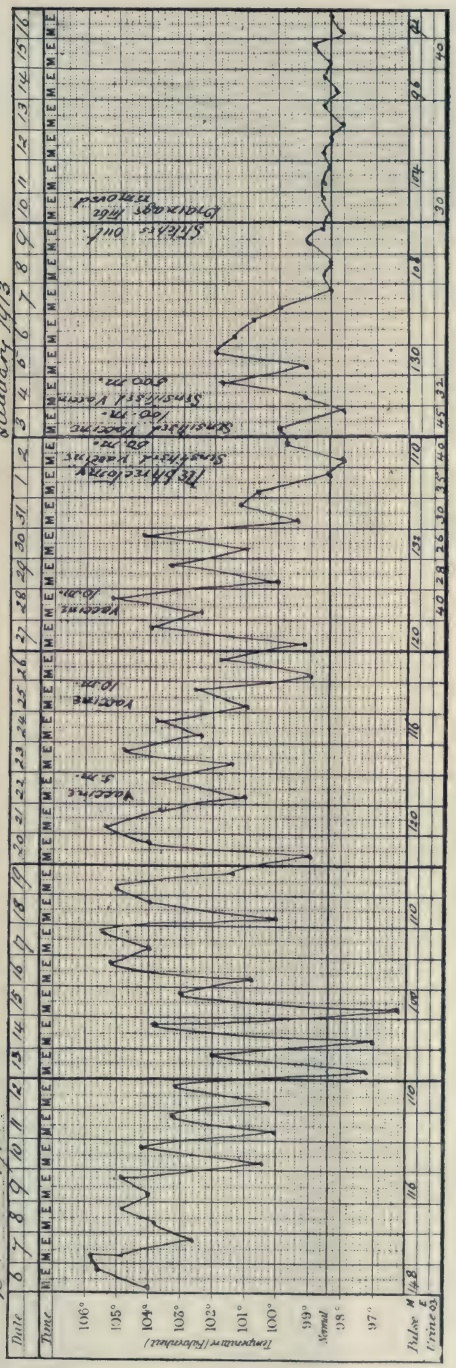

September 1912.
January 1913.
Vaccine 5 m.
Vaccine 10 m.
Vaccine 20 m.
Strepto. Vaccine 25 m.
Staphylococ. Vaccine 100 m.
Streptococ. Vaccine 400 m.
Stitches out
Date
Temperature (Fahrenheit)
Pulse
Respirations

FIG. 1.

patient had "almost" completely recovered. This reservation is necessary, because, although her general condition was good and the wound soundly healed, the urine, although clear, still yielded a growth of *B. coli* on culture.

In many of these cases of *B. coli* infection of the urinary tract, the symptoms for a time may be slight or even absent altogether, so that it is impossible to be certain of the exact site of the initial invasion. Moreover, although attention is often directed to the condition by symptoms of bladder irritation, it does not by any means follow that the real trouble is situated in that viscus. As in cases of renal tuberculosis, so here, cystoscopic examination of the ureteric orifices at the time of onset of symptoms may clearly point to disease, already of some duration, in one or both kidneys.

I suggest that in this case there had been a quiet infection of some part, or the whole, of the urinary tract for the two years during which the patient had suffered from urgency of micturition and occasional incontinence, and that the extra strain thrown upon the kidneys by the attack of pneumonia determined the infection of their parenchyma with organisms derived from their already infected calices. Whereas the disease in the left kidney to a large extent underwent resolution, the lesion on the right side, reinforced by a further invasion of virulent organisms from the hepatic flexure of the colon, progressed to the stage found at the operation. Some lesion of the colon was undoubtedly present at this time, and the much more intimate anatomical relation of the colon to the right kidney may have determined the stress of the disease falling upon this, the commonly affected side.

Remarks by Dr. Thursfield.

The foregoing case presents several points of interest. Cases in which the kidney has been opened or removed during an acute attack of pyelo-nephritis are few in number. I have been able to find two recorded by W. M. Jeffreys in the 'Quarterly Journal of Medicine,' 1911, iv, p. 267. In a child, aged 6 months, who was suffering from an infection with Gaertner's bacillus, the left kidney was opened and drained and the child made a good recovery (Case XLIX). In a girl, aged 8 years, the right kidney was removed after she had had a severe attack of pain and swelling in the left kidney. The kidney removed is described as "large, with numerous pale areas beneath the capsule." The child left the hospital in good general health. In another case also mentioned



FIG. 2.

the kidney was opened and nothing abnormal detected. In these it is clear that the infective process had not progressed to the stage reached in the case under consideration, where the whole kidney was a mass of abscesses distributed equally in the cortex and medulla, but they are of interest as showing the extent of damage which is compatible with good recovery. In the first two there can be no doubt that both kidneys were involved. In a fourth case reported by Jeffreys, at an autopsy several months after the end of the attack, the right kidney was found atrophied and adherent to the perinephric tissues, while the left, though scarred, had undergone hypertrophy.

Histologically there was nothing to distinguish the lesions in the kidney which was removed from Mr. Wilson's patient from those which are common in the kidney of "ascending nephritis." There were a number of abscesses both in the cortex and medulla, and the tissues of the kidney were infiltrated throughout with inflammatory cells. The organism isolated from the kidney after removal differed slightly from that found in the urine during the course of the attack, the latter giving the sugar reactions characteristic of the "classical" *B. coli*, while the former fermented saccharose bile-salt media and did not affect lactose bile-salt broth. In all other respects it resembled *B. coli communis*.

The diagnosis in such cases is always difficult, especially since it is certain that in some of the most acute infections the urine remains normal for some time after the onset of the fever. Why this should be so is not quite clear, but the changes which the urine undergoes in the course of an attack suggest a possible explanation. I have seen on two or three occasions during an attack the fever disappear with a copious discharge of pus, and a little later the urine become absolutely free from pus while the temperature rises again to a considerable height. Such a course suggests strongly that there is a temporary block in the ureter damming back the pus in the dilated pelvis and ureter. In cases where I have had the opportunity of examining the urine bacteriologically during the period of freedom from pus I have always been able to obtain a copious growth of the infecting organism. In the case under consideration the first urinary symptoms were not observed till the end of a week, and examination of the urine during this time showed it to be free from turbidity. When I had the opportunity of seeing the patient the diagnosis had already been made. At that time, at the end of the second week, the only physical sign of the disease was a tenderness in the right loin. I thought it probable that improvement would

take place soon, but that if there were none in a few days it would be necessary to consider surgical interference. After seeing the condition of the kidney, which Mr. Wilson removed a week later, I am clear that I was mistaken. That recovery is possible, after a severe lesion of the kidney, is clear from the case mentioned above, in which an atrophied kidney was found at the autopsy, but I find it difficult to believe that in that instance the inflammation had ever reached such an advanced stage as in this patient.

Another obscure point in the pathology of this disease is the reason for the special liability of the right kidney. That this is the case is, I think, clear from the statistics of Jeffrey, who found that the right was affected only, or first, three times as often as the left. If one accepts the view that the infection reaches the pelvis of the kidney from the intestine direct across the intervening tissue, the more intimate relation of the colon to the right kidney would suffice to explain the greater liability of that side. But there are difficulties in this view, especially as in a considerable number of patients the symptoms of cystitis precede those of pyelitis, and the much greater liability of girls is easier to explain on the hypothesis of an ascending infection.

Whatever the explanation of this peculiarity, it is certain that the bulk of the patients are suffering from some intestinal trouble; perhaps constipation is the commonest, but in infants under two years of age the affection is very apt to follow an acute attack of diarrhœa. In two cases the inflamed appendix has been found lying in close relation to the pelvis of the kidney; both of these were chronic infections, liable to recurrent attacks of pyuria.

Lastly, the atrophy of the kidney, which had been the seat of a purulent infection, suggests a possible explanation of those cases where the kidneys are found atrophied and scarred in patients, especially girls, who die at or soon after the age of puberty. It is possible that these atrophic organs represent the traces of an attack of pyelo-nephritis during infancy or early childhood. I am convinced from my own observations that such attacks may be the explanation of some of the unexplained fevers of infancy and childhood, and that they are often of a character so mild, that unless special attention is directed to the urinary tract they may be undiagnosed. I have elsewhere called attention to the striking resemblance which some of the more chronic cases bear to "cyclic vomiting."

A CASE SIMULATING MENINGITIS IN WHICH THE SYMPTOMS WERE CAUSED BY THE ESCAPE OF THREAD-WORMS INTO THE PERITONEAL CAVITY THROUGH A PERFORATED APPENDIX VERMIFORMIS.*

By R. N. H. Anglin Whitelocke, F.R.C.S.,
Surgeon to the Radcliffe Infirmary, Oxford.

A girl, aged 5½ years, was admitted into the Oxford County Hospital in May, 1910, with the diagnosis of tuberculous meningitis, seeing that a year previously an enlarged gland had been removed from the side of her neck.

On examination she seemed very ill, had a temperature of 102·4° F. and a pulse-rate of 112. There was marked converging strabismus, with contraction of both pupils and some photophobia. Her mother stated that for thirty-six hours or more she had been sick, was restless, and now and then screamed out when apparently dosing. She was very constipated, and an enema had produced but a small result. She slept badly and often refused food; any attempt at drinking brought on immediate vomiting. She had urinary incontinence. There was no disease of the ears or air-sinuses.

For the first two days after admission her condition and symptoms remained about the same, but after this she began to pick at the bedclothes, to throw herself about in bed in a restless, irregular manner, and to wet herself more frequently. At this period I noticed for the first time that she kept her right lower limb fully flexed and drawn up to the abdomen, whilst she moved the left from time to time, often extending it.

Palpation of the lower abdomen gave the impression of increased rigidity in the right rectus muscle, and caused her to call out when even gentle pressure was brought to bear over the cæcum. There was no distinct dulness on percussion anywhere. The existence of these physical signs on the right side together with the increasing sickness, quickening pulse, and general weakness determined me to explore the region of the appendix. The mother readily assented to the operation, and under complete ether narcosis I operated, utilising the McBurney or gridiron incision.

When the peritoneum was opened a small quantity of semi-purulent fluid escaped, emitting a fæcal odour. An inflamed process

* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on April the 25th, 1913.

of omentum was found covering in the anterior surface of the cæcum and the appendix completely. In peeling the inflamed omentum from the appendix I came upon a colony of about a dozen dead thread-worms. After the appendix had been cleared and delivered through the wound it was found to possess a pin-point perforation ¾ in. from its distal extremity on its mesial aspect. Through the minute perforation a living thread-worm was to be seen wriggling until it finally extruded itself on to a swab held to receive it. In quick succession three or four others of smaller size, and presumably of less mature age, passed in single file through the opening. The base of the appendix was crushed and ligatured, and the organ excised according to custom. The omentum was then drawn into the wound and carefully examined, and as a result three more live worms were removed from its meshes at some distance from the inflamed and previously attached portion. In swabbing the pelvic peritoneum with hot saline in search for others, four more live ones were caught and removed. The wound was then closed. The appendix when cut open was found to be crammed full of oxyurides of all sizes and ages. The very small and immature worms greatly predominated. The mucous membrane was considerably ulcerated, especially in the immediate neighbourhood of the perforation.

The opening was so small that a fully grown oxyuris squeezed itself through with decided difficulty. After the operation the nervous symptoms and sickness very soon disappeared, the pulse and temperature fell to normal on the following day, and from this time onwards the recovery was rapid and complete.

The case presents many points of interest, and amongst them may be enumerated:

(1) The difficulty in making a rational diagnosis in the first instance was increased by the existence of an almost positive tuberculous history on the one hand, and by the entire absence of any other known cause on the other.

(2) The nervous symptoms played such an important *rôle*, and the pain was so generalised at the first and subsequent examinations, that there was little to direct attention to the local focus in the lower abdomen.

(3) The only truly localising and diagnostic symptom was the continued flexure of the right lower limb.

(4) The imitation of a true organic nerve lesion or lesions by the reflex irritation produced by the active animalcules wriggling about on the exquisitely sensitive peritoneal surface.

(5) The immediate cessation of the urgent symptoms as soon as the cause had been removed.

(6) Especially interesting to the surgeon is the behaviour of the omentum in coming to the rescue in this case, as it so often does in others, by limiting and preventing the extension of local mischief. In this particular case it appears not only to have checked the peregrinations of many of the worms, but it seems to have actually killed them. The colony of dead worms was to all appearances enwrapped by the adherent omentum, and the individuals were held in bondage as it were in the immediate neighbourhood of their place of exit from the cavity of the appendix.

(7) The absence of infection as the result of the perforation in spite of the free escape of a foul semi-purulent discharge on to the peritoneal and wound surfaces. A drainage-tube was used only during the first twenty-four hours after the operation. The case is unique in the operator's experience, and he has neither heard of a similar case nor has he seen an account of one in surgical literature.

THE TREATMENT OF DIPHTHERIA BACILLUS CARRIERS WITH BOUILLON CULTURES OF *STAPHYLOCOCCUS PYOGENES AUREUS*.

By J. D. Rolleston, M.D.,
Assistant Medical Officer, Grove Fever Hospital, London.

Historical note.—This method was first introduced in 1909 by Schiötz, of Copenhagen, who had observed that patients with staphylococcus sore throats admitted in error to diphtheria wards did not contract diphtheria, and that intercurrent attacks of staphylococcus sore throat expelled pre-existent Klebs-Loeffler bacilli in diphtheria convalescents. He accordingly inoculated six diphtheria bacillus carriers with a staphylococcus culture isolated from the throat of a patient in a surgical ward, who was healthy except for the condition requiring operation. Three of the patients were adults, and three children between eleven and thirteen years of age. In each case the cultures rapidly became negative.

H. Page, of Manilla, was the first to adopt Schiötz's method. After ineffectual use of ordinary throat sprays and repeated injections of antitoxin he found that two-hourly spraying of the throat with bouillon cultures of *Staphylococcus pyogenes aureus* rendered the throat free of bacilli in a few days. In a subsequent paper he

relates how he used the treatment on his own son in convalescence from severe diphtheria. Release from quarantine was delayed owing to timidity in using the spray, the cultures not being negative until seven days after treatment had been begun.

Catlin, Day and Scott, of Rockford, Illinois, next reported eight cases of diphtheria carriers, in whom they used this treatment after the ordinary methods of throat antisepsis had failed. A twenty-four hours' old broth culture was sprayed into the nose and throat three times daily, and all other treatment was stopped. The bacilli disappeared in from forty-eight to seventy-two hours.

Two cases were treated by Leary, of Melbourne. In the first the spray was used on two occasions, with an interval of two to three days. Several swabs taken sixty hours after this were negative, and further cultures taken from the posterior part of the throat five days after spraying showed only one bacillus. The second case showed negative cultures in forty-eight hours and again four days later.

Lydia De Witt, of St. Louis, carried out experiments to determine whether an antagonism existed between *Staphylococcus aureus* and diphtheria bacilli. Test-tube experiments showed that the organisms grew well together, and that a killed staphylococcus culture formed a good medium for the growth of diphtheria bacilli. Experiments on rabbits and guinea-pigs showed that though Klebs-Loeffler bacilli frequently disappeared more quickly in animals treated with staphylococcus cultures than in those untreated, this result was not constant. In two diphtheria patients whom De Witt treated with staphylococcus cultures the bacilli reappeared after two negative findings had been obtained. She suggested that the apparently favourable action of *Staphylococcus aureus* is due, not to an incompatibility between the two organisms, but to a reinforcement of the normal throat flora.

In a case in which diphtheria bacilli had persisted three and a half weeks from the onset of the disease, R. G. Wiener, of New York, used a throat spray three times a day, starting on December the 11th, 1911. On the 12th the culture was positive, and a spray with twice as heavy a culture was used. On the 13th the culture, though still positive, contained fewer organisms. A heavy culture was used every three hours this day. On the 14th staphylococci only were found in the culture. On the 18th, four days after the last spray, the culture was still negative.

Lieutenant G. B. Lake, of the United States Army Corps, treated thirteen convalescent cases in an outbreak of diphtheria at Fort

Sam Houston, Texas. The throats were swabbed once a day with the cultures, which were varied a good deal for purposes of experiment. Bouillon cultures from six hours to five days old, young broth cultures reinforced with two or three loopfuls of agar cultures, and suspensions in broth of agar cultures were all tried. The best results were obtained with bouillon cultures forty-eight to seventy-two hours old grown at incubation temperature.

In seventeen cases treated by W. F. Lorenz and M. P. Ravenel, of Madison, Wisconsin, a nasal and throat spray was used consisting of a fresh suspension of *Staphylococcus pyogenes aureus* in normal saline solution and a broth culture twelve hours old. Three were carriers pure and simple, six had had clinical symptoms, and eight had treatment early in the disease. The method was most successful in the carrier cases, and less so in the others.

A. J. Bell, physician to the Cincinnati Hospital, obtained a negative culture in two persistent carriers after forty-eight and sixty hours' treatment respectively. He recommends that a fresh staphylococcus culture should be prepared daily. The first application should be made by the physician, and the remainder of the culture should be used by the patient himself every two hours during the day.

This survey of the literature shows that comparatively few cases have been treated by this new method, the total number hitherto recorded amounting to barely over fifty. With the exception of Leary's Melbourne cases the observations have been confined to the United States, and so far no cases have been published in this country or on the Continent. Up till now no complications have been noted except by Lorenz and Ravenel, who mention coryza, very mild laryngitis and nasal furuncles occurring among their cases.

The simplicity, efficacy, and apparent harmlessness of the method induced me to make use of it in ten cases whose histories are given below. Four were adults and six children. Nine had had a mild and one a severe attack of diphtheria. In eight the fauces and in two the nose alone had been involved. All had reached an advanced stage of convalescence. In all but two the virulence of the organisms was tested at the Central Laboratory of the Metropolitan Asylums Board. The histories show that the results were successful in all the faucial cases and unsuccessful in the two nasal cases.

Method.—A pure culture of *Staphylococcus pyogenes aureus* having been obtained from the Central Laboratory, a broth tube was inoculated with two or three loopfuls of the culture and incubated for eighteen to twenty-four hours. The palate and fauces and in nasal cases the nostrils as well were sprayed three or four times a day.

The spraying was followed by applying swabs dipped in the culture to the tonsils and surrounding parts.

A culture was taken before each application, and the treatment was continued until a negative culture was obtained. A few days after cessation of treatment another culture was taken. If this proved positive, the spraying was resumed, otherwise the patient was discharged if the following culture was also negative.

In all but two cases a mild form of sore throat was produced within two to three days of starting the treatment—an occurrence not reported in any of the cases hitherto published—and was accompanied by more or less constitutional disturbance. A striking feature was the considerable degree of malaise, quite out of proportion to the temperature, which as a rule was but slightly raised. The symptoms, however, both general and local were of short duration, and were not followed by otitis or any other complication. The fatal issue of Case 8 cannot fairly be attributed to the treatment.

As the process entails some degree of discomfort it is well not to employ it until other methods have been tried, and it is for this reason that I did not make use of it in a larger number of cases, but confined it to the treatment of chronic carriers, in all of whom the bacilli had existed for more than six weeks. An exception must be made of Case 10, in whom the treatment was started on the twenty-fifth day, as her livelihood depended upon her early discharge from hospital. In all the rest the earliest date on which the spray was used was the forty-sixth day and the latest the seventieth.

It is advisable not to employ the method except at a late stage of convalescence for the following reasons. First, in the early stage before the mucous membrane has completely regenerated there is a danger of infection of the deeper tissues by the pyogenic organisms. So far no serious complications have resulted in man, but De Witt's experiments in rabbits and guinea-pigs show that the clinical symptoms of diphtheria are often more severe under staphylococcus treatment than otherwise. Secondly, the excess of mucus and detritus present in the throat during the acute stage prevents free access of the staphylococci to the parts, and affords a temporary shelter to the diphtheria bacilli. Thirdly, in hospitals where patients, owing to the possibility of complications, especially subsequent paralysis, are detained from four to six weeks, there is no need to use the method at an early stage, when the chance of the bacilli being present is much greater than late in convalescence.

In this connection De Witt's investigations as to the persistence of Klebs-Loeffler bacilli in the throat of diphtheria patients are of

interest. In 175 cases examined their duration was less than thirty days in 63 per cent., between fifteen and thirty-five days in 87 per cent., under fifteen days in only 12 per cent., and over forty days in 12 per cent.

In view of the futility of most other methods in ridding the throat of diphtheria bacilli the application of staphylococcus cultures is worthy of trial. It is superior to the endotoxin treatment recently advocated by Hewlett and Nankivell (*Lancet*, 1911, ii, p. 143), in that the culture is easily prepared and that no injections are required. Patients who wish to escape from irksome detention in hospital or quarantine at home should have the method explained to them and the possible discomfort they may experience. It will probably be found that they will readily submit to any treatment which is likely to obtain their freedom.

Case 1.—Woman, aged 25 years. Admitted September the 24th, 1911, with mild faucial diphtheria. 8000 units of antitoxin given. Throat clean on September the 28th. November the 6th (forty-sixth day): Throat culture positive. Fauces normal. November the 13th: Virulent diphtheria bacilli in throat culture. November the 14th to 16th: Formamint lozenges four times daily. November the 16th: Culture still positive. November the 17th (fifty-seventh day): Staphylococcus broth culture, about eighteen hours old, sprayed on fauces at 11 a.m., 2 p.m., 5 p.m., and 7.45 p.m. November the 18th: Staphylococcus spray used thrice. November the 19th: Severe headache and malaise. Temperature normal. Speck on left tonsil. No diphtheria bacilli. A few rods without polar staining, but chiefly staphylococci. November the 21st: Sore throat. Specks on tonsils. Temperature 99·4° F. November the 22nd: Temperature normal. Culture negative. November the 23rd: Throat slightly injected. Culture negative. November the 24th: Throat normal. November the 25th: Culture negative. Discharged. The temperature was only raised on one day, and was not above 99·4°.

Case 2.—Girl, aged 6 years. Admitted November the 3rd, 1911, with mild faucial diphtheria. 4000 units given. Throat clean on November the 4th. December the 14th (forty-sixth day): Culture positive. Tonsils large, fauces pale. December the 18th (fiftieth day): Virulent diphtheria bacilli in throat culture. December the 21st and 22nd (fifty-third and fifty-fourth days): Throat sprayed and swabbed with staphylococcus cultures morning and evening. December the 23rd: Fewer bacilli in culture. December the 24th: Bacilli still numerous. Treatment continued. December the 26th:

Culture negative. December the 27th: A few groups of diphtheria bacilli in culture. December the 28th and 29th: Treatment continued thrice daily. December the 30th and January the 2nd: Almost pure culture of diphtheria bacilli in throat. January the 4th and 5th: Throat sprayed and swabbed four times daily. January the 5th and 7th: Culture positive. January the 7th: Slight faucial injection. January the 8th, 11th and 12th: Cultures negative. January the 15th: Discharged. The persistence of diphtheria bacilli in this case was probably due to several factors: viz. enlargement of the tonsils, infrequent and inadequate use of the spray, and absence of any marked local reaction. There was no constitutional disturbance or rise of temperature in this case.

Case 3.—Boy, aged 6 years. Admitted November the 9th, 1911, with mild faucial diphtheria. 4000 units given. Throat clean November the 10th. December the 19th (forty-seventh day): Culture positive. Fauces normal. December the 21st (forty-ninth day) and December the 22nd: Throat swabbed morning and evening with staphylococcus broth cultures. December the 23rd: Sore throat since last night. Fauces injected. Specks on right tonsil. Temperature 98° F. Only a few diphtheria bacilli in culture. December the 24th: Throat clean. December the 24th, 25th and 26th: Cultures negative. December the 28th: Discharged. The temperature was not raised, and no estimation of the virulence of the bacilli was made in this case.

Case 4.—Man, aged 26 years. Admitted December the 28th, 1911, with severe faucial diphtheria. 12,000 units of antitoxin given. Throat clean January the 1st, 1912. February the 19th (fifty-eighth day): Throat culture contains virulent diphtheria bacilli. Fauces normal. February the 25th, 26th, 28th and March the 1st: Throat sprayed and swabbed with staphylococcus broth culture. February the 27th: Complains of sore throat. Fauces slightly injected, clean. Temperature 98·6° F. February the 28th: Throat no longer sore. Still some faucial injection. Temperature subnormal. Only a few diphtheria bacilli, mostly staphylococci in culture. February the 29th: Fauces injected. Specks on tonsils. Temperature subnormal. Culture still positive. March the 1st: Culture positive. Temperature 99·4°. March the 2nd: More deposit on tonsils. Pains in limbs. Temperature subnormal to-day and subsequently. Culture negative. Throat syringed four-hourly with potassium chlorate and lavender lotion. March the 4th: Throat clean. March the 4th, 5th and 7th: Cultures negative. March the 11th: Discharged. The temperature was only raised from

4.0 p.m. on March the 1st to 4.0 a.m. on March the 2nd, the highest record being 99·4° F.

Case 5.—Woman, aged 53 years. Admitted April the 22nd, 1912, with mild faucial diphtheria. 8000 units of antitoxin. Throat clean on April the 24th. May the 21st (thirty-first day): Culture positive. Fauces normal. May the 28th (thirty-eighth day): Virulent diphtheria bacilli in throat culture. June the 5th (forty-sixth day) to June the 9th (fiftieth day): Throat sprayed and swabbed with staphylococcus broth culture. June the 8th: Slight faucial injection. June the 10th: Headache, malaise, specks on tonsils. Morning temperature 98·4° F., evening temperature 100·2°. No diphtheria bacilli, but only staphylococci in cultures. June the 11th: A few diphtheria bacilli, but chiefly staphylococci in cultures. Temperature 98–99·2°. June the 12th: Throat injected, but clean. No diphtheria bacilli, but only staphylococci in cultures. Temperature 98°–98·4°. June the 13th: Headache and nausea. Tonsils swollen. Temperature 98–101°. June the 15th: Throat normal. Feels well. Temperature normal. June the 17th and 18th: Cultures negative. June the 20th: Discharged. The febrile period lasted from June the 10th to June the 14th, but the temperature never rose above 101°.

Case 6.—Girl, aged 6 years. Admitted September the 12th, 1912, with mild faucial diphtheria. 8000 units of antitoxin given. Throat clean on September the 13th. October the 29th (fifty-first day): Cultures positive. Throat normal. October the 31st: Culture positive. Staphylococcus spray and swab applied to throat thrice daily. November the 1st: Treatment continued. November the 2nd: A few specks on tonsils. Fewer diphtheria bacilli in culture. Temperature subnormal. November the 3rd: Sore throat, nausea, malaise, specks on tonsils. Morning temperature, 101·4° F., evening temperature 100·0°. Culture negative. November the 4th: Specks on tonsils. Nasal discharge. Morning temperature 99·2°, evening temperature 101°. November the 5th: Throat clean. Nasal discharge almost ceased. Nasal culture negative. Morning temperature 98°, evening temperature 99·8°. November the 6th: No nasal discharge. Temperature subnormal this day and subsequently. November the 8th, 14th and 15th: Cultures negative. November the 18th: Discharged. The temperature was raised for three days, the highest record being 101·4°. No estimation of the virulence of the bacilli was made in this case.

Case 7.—Boy, aged 7 years. Admitted October the 17th, 1911, with mild nasal diphtheria. 4000 units of antitoxin given. Novem-

ber the 20th (fiftieth day) : Throat culture negative, nasal culture positive, no nasal discharge. November the 27th (fifty-seventh day) : Throat culture negative ; virulent diphtheria in nasal culture, no nasal discharge. November the 29th and 30th (fifty-ninth and sixtieth days) : Anterior nares sprayed and swabbed twice daily with broth cultures. December the 1st : Headache and vomiting. Specks on tonsils. Glands at angles enlarged. Some nasal discharge. Still some diphtheria bacilli in nose, but mainly staphylococci. Throat culture negative. Temperature 101°–103·4° F. December the 2nd : Specks on tonsils. Temperature 97·4°–100°. December the 3rd : Still deposit on tonsils. Throat syringed four-hourly with solution of potassium chlorate and lavender. December the 4th : Throat nearly clean. December the 5th : Throat clean. Temperature 97·6°–100°. December the 7th and 8th : Pure culture of staphylococci in nose. Temperature 97·4°–100°. December the 14th : Nasal culture positive. December the 16th : A few diphtheria bacilli in culture, but mainly staphylococci. December the 18th : Virulent diphtheria bacilli in nasal culture. December the 29th : Nose culture negative. December the 30th : A few bacilli in culture. January the 1st and 2nd : Cultures negative. January the 4th : Discharged. The febrile period lasted from November the 30th to December the 8th the highest temperature was 103·4°.

Case 8.—Girl, aged 3 months. Admitted August the 19th, 1912, with nasal diphtheria and congenital syphilis. 4000 units given. October the 1st (forty-fourth day) : Nasal culture positive. October the 31st (seventy-fourth day) : Virulent diphtheria bacilli in nasal culture. Nostrils sprayed twice daily with staphylococcus culture. November the 1st : Nasal discharge increased. Fauces clean. Morning temperature 101° F., evening temperature 104°. Spraying omitted. November the 2nd : Still much nasal discharge. Fauces clean. Temperature 100°–102°. Culture positive, but much fewer bacilli present. November the 5th to 9th : Temperature normal. November the 8th : Nasal discharge still profuse. More diphtheria bacilli in culture. November the 9th : 4000 units of antitoxin given. November the 10th : Erythema and œdema of skin of abdomen at injection site. Temperature 102°–99°. November the 17th : Broncho-pneumonia. November the 19th : Death. Although the application of the spray was followed by a febrile reaction lasting for four days, the temperature became normal, and subsequently remained so until after the re-injection. The terminal broncho-pneumonia, to which the child was predisposed by its

chronic rhinitis, developed nearly three weeks after the use of the spray, which cannot therefore be regarded as responsible for the fatal issue. It is more reasonable to incriminate the combination of congenital syphilis, diphtheria and anaphylaxis.

Case 9.—Girl, aged 16 years, admitted January the 27th, 1913, with mild faucial diphtheria. 12,000 units given. Throat clean on January the 30th. March the 6th (fortieth day) : Fauces slightly injected, clean. Culture positive. March the 12th (forty-sixth day) : Virulent diphtheria bacilli in culture. Fauces as on the 6th. Staphylococcus spray and swab applied to throat 11 a.m., 2.30 p.m., and 7.30 p.m. March the 13th : Treatment continued. March the 13th and 14th : Cultures positive. March the 15th (third and last day of treatment) : Pure culture of staphylococci, no diphtheria bacilli present. A few specks on right tonsil. Temperature normal. March the 16th and 17th : Cultures negative. March the 17th : Throat clean. March the 20th : Discharged. There was no rise of temperature nor constitutional disturbance in this case, and the local reaction was minimal.

Case 10.—Woman, aged 36 years, admitted March the 11th, 1913. She had had a sore throat a week previously, but the throat was clean on admission. No antitoxin given. March the 26th (twenty-third day) : Culture positive, fauces normal. March the 28th (twenty-fifth day) : Culture positive. Staphylococcus spray and swab used twice daily. March the 29th and 30th : Cultures positive. March the 30th : Second and last day of treatment. March the 31st and April the 1st : Culture negative. Fauces normal. April the 3rd : Culture negative. Discharged. There was no local nor general reaction in this case.

Summary.

Ten chronic diphtheria bacillus carriers were treated by spraying and swabbing the throat or nose with a bouillon culture of *Staphylococcus pyogenes aureus*. In six faucial cases the findings became negative within two to seven days after starting the treatment. In the two nasal cases the treatment was ineffective. In all but two cases a mild form of sore throat was produced, but no complication ensued.

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MALTED FOOD IN THE TREATMENT OF ENTERITIS IN YOUNG CHILDREN.*

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During our nine years' pædiatric practice in Turkey the complaint for which we have been most often consulted is certainly the enteritis of infancy. It is in the summer that the disease claims most victims, since in Smyrna out of three deaths among children *per diem* (out of 7–8 deaths) at least two are due to enteritis or its complications. It is certain that the summer heat which favours intestinal putrefaction contributes to a great extent to the prevalence of this disorder, but we are forced to admit that it is chiefly the bad quality of the milk and the deplorable hygienic surroundings which are the chief causes of the disease in our country.

Now, as we have had experience of a considerable number of cases of enteritis, we believe we have tried every therapeutic method, and we have arrived at the conclusion which is shared by most of our colleagues—that the treatment of enteritis, which is an intestinal auto-intoxication—should be essentially anti-putrefactive. Can we succeed in making the intestine antiseptic by any drug? We think not, and therefore reject any so-called intestinal antiseptic, such as benzo-naphthol, betol, salacetol, etc.

The only drugs we employ are a few absorbents or astringents, such as tannigen or tannalbin, and these only in special cases. Anti-putrefactive treatment can only be obtained by an appropriate diet which will tend to change the intestinal flora.

For we hold with Combe † that the composition of the bacterial

* Abstract of a paper read before the Association Internationale de Pédiatrie, in Paris, October the 10th, 1912.

† 'Traitement de l'entérite muco-membraneuse,' Paris, 1911, p. 271.

flora of the intestine in great part depends upon the diet. Milk, containing a high proportion of nitrogenous substances, and consequently being an excellent culture medium for proteolytic bacilli, easily enters into putrefaction, and produces gases which irritate the intestinal mucosa. It is, therefore, not tolerated by children suffering from enteritis, and we have seen the intolerance extended even to woman's milk.

To arrest the development of intestinal putrefaction, the best method, as all pædiatrists agree, undoubtedly consists in putting the child on water diet. But for how long can this diet be continued? In our opinion it should not be prolonged over twenty-four hours, and only in exceptional cases have we extended it to forty-eight hours.

A preparatory *régime* is therefore needed if we wish to avoid the disadvantages caused by a too rapid return to milk diet. In many cases Comby's cereal decoction or Méry's vegetable broth may serve this purpose, but in more serious cases, especially the chronic ones, where the slightest return to milk causes a relapse, neither of the preparations can be employed except for a short time. Their nutritive value is not much superior to salted water, and they can only serve as a continuation of the water diet. It is true that vegetable broth or soup prepared with rice cream has a superior nutritive value to that of plain broth, but it is not the ideal *régime*, and we have seen several children refuse it after one or two days' trial; other preparations, therefore, must be employed. We have sometimes had excellent results with food rich in ferments, such as kephir, butter-milk or yogourth, but these foods are not accessible to all, nor, indeed, have they always proved successful in our hands. For this reason we have been led to employ malted foods.

It is well known that farinaceous articles of diet which contain a small amount of nitrogen resist putrefaction better than others. They will naturally be better tolerated and in larger quantities when they have undergone certain modifications to render them more digestible, and these modifications are best realised by the diastase of starch. Farinaceous foods, therefore, which have previously undergone malting, represent the best preparatory *régime* in the enteritis of children, and can be used for a long time without any drawbacks.

Furthermore, as milk which has been mixed with flour has not the disadvantages of pure milk owing to the anti-putrefactive action of the flour, a little milk may be added to the malt preparation, and the amount gradually increased, so that the child may be prepared for a milk diet.

The first process we adopted for the preparation of malt soup was that of Heller.* We often found this method fairly satisfactory, but it did not give us constant results nor have we been more successful with Demarque's † process. In 1905 we first made use of E. Terrien's ‡ method, which has alway given us the best results, as we have previously shown in a communication made at the medical congress at Athens in April, 1906.

Terrien's method is as follows:

To isolate the diastase infuse 20 grm. of crushed malt in a small quantity of water at 60° C., and maintain this temperature for half an hour. The soup is prepared thus: Stir up 80 grm. of rice flour in a litre of cold water and milk mixed in variable proportions according to the case. Heat to 100° C., allow to cool to 80° C. and add 50 grm. of ordinary sugar. After this has dissolved, the temperature being still kept at 80° C., add the infusion of malt, which has been strained through a cloth or sieve, and leave for ten minutes. Heat again to 100° C. to sterilise it.

The only objection to this method is that it cannot be carried out by everyone. A thermometer registering 100° C. is not always available, and often those looking after the children would not know how to make use of it. We have therefore endeavoured to simplify the technique as follows: A packet containing 20 grm. of freshly prepared malt is poured into a large glass containing about one and a half inches of water. The water, which has been previously boiled, must be kept at a constant temperature of 60° C., *i. e.* one which can just be borne by the little finger, and placed in another receptacle of warmer and frequently changed water. Then take three large table-spoonfuls of rice flour and mix in 600 grm. of water and 300 grm. of milk in the cold. Put the mixture on the fire and stir to prevent lumps forming. When it has begun to boil take it off the fire, and after about a minute quickly add 50 grm. of sugar, and then strain into it the malt infusion, still kept at the previous temperature. It is certain that the malting process carried out in this way does not take place at a constant temperature of 80° C. as Terrien§ states, but the temperature hardly varies from 90° to 75° C., and this is just the temperature of the diastase. It is now nearly seven years since we used this simplified method and we have always found it successful.

* 'Deut. med. Woch.,' 1898, xxiv, p. 617.

† 'Thèses de Paris,' 1903–4, No. 367.

‡ 'Compt. Rend. Soc. de Biol.,' 1905, lix, p. 396.

§ Terrien, "Précis d'alimentation des jeunes enfants," Paris, 1908.

In a case of enteritis we start with water diet, and sometimes continue with vegetable broth and then very rapidly reach the malt soup stage. But instead of at once resorting to malt soup prepared with milk, we start with malt soup prepared with pure water, employing 900 grm. to a litre of water, instead of 600 grm. of water and 300 grm. of milk. The following day we give malt soup prepared with milk, alternating each meal with malt soup without milk. Tolerance to milk becomes established and never offers any difficulty.

During the hot weather it is well to keep the soup in an ice chest, or, better, to prepare it twice a day. In our malt soup we have always employed rice flour in preference to wheat flour used by Terrien. Rice is certainly the most digestible carbohydrate and the most easily assimilated, since the very smallest quantity is found in the fæces.*

Soup such as we have described where methodically started and gradually left off constitutes in our opinion the best anti-putrefactive diet in the enteritis of children. It can hardly be given, however, until after the age of five months, and is contra-indicated in younger children, whose stomach would not always tolerate rice cream even when diastased. With children under five months, instead of rice meal we have used a decoction of rice passed through a fine cloth in which we have used the diastase according to the same technique. For a large glass (300 grm.) of rice decoction we use 15 to 20 grm. of sugar and 10 grm. of malt; milk is then gradually added to the decoction according to the tolerance of the child.

In children under five months we have also employed with success various proprietary malted preparations, but our best results have always been obtained by Terrien's method.

Royal Society of Medicine.

EPIDEMIOLOGICAL SECTION.

February the 28th, 1913.

MEASLES.

Dr. William Butler, after quoting the interesting remarks of Rhazes, referred to his own investigations as to the universality of measles. One

* R. Gaultier, 'Précis de coprologie clinique,' 1907, p. 202.

hundred and seventy-eight per cent. of 14,000 persons at all ages had suffered from this disease. In the age-groups 0–4 only 8·4 per cent. had already undergone an attack of measles, while from the age of fifteen onwards 97·3 per cent. had previously suffered. Among the more favoured classes measles is a less necessary experience in the earlier years of life. At Marlborough College, of 632 boarders, 190 between the ages of thirteen and seventeen were attacked—an incidence-rate of 30 per cent. as compared with one of 2·2 per cent. in elementary scholars between the years of ten and fifteen. Four hundred and fifteen boys were noted as having suffered previously from this disease, and of these, nine had a second attack—an incidence-rate of about 2 per cent. as contrasted with an attack-rate of 0·5 per cent. in the previously infected public elementary school-children. Speaking generally measles is acquired in early childhood and confers immunity throughout life; age in itself does not confer immunity, as is evidenced by the Marlborough experience and that of various isolated communities. Nevertheless there are wide ranges in natural and acquired immunity, for of 174 infants under six months of age, only 18, or 10·2 per cent., were attacked, whereas of 209 between the ages of six and twelve months, 161, or 77 per cent., contracted the disease. Similar figures were quoted from Holt's 'Diseases of Infancy and Childhood.'

The interesting figures of Dr. Robert Watt, of Glasgow, are quoted to show that in 1813 one child out of ten attacked died from the measles, and even now the death-rate is understated, many of the cases being entered under affections of the respiratory organs. The mortality at various ages was then given; as many as 5 per cent. of all notified cases aged one year died, while at five years and upwards only 0·5 per cent. succumbed. There has been a definite age-shifting of the measles mortality on to the first two years of life, owing to the increased aggregation of the population in London, and the increased opportunity for infection entailed by school attendance. Thus in Willesden 70 per cent. were traceable to cases contracted in the infant department of these schools.

Raising the school age for elementary scholars would not materially lessen the incidence of the disease on the younger children, as the older children infected in school would go back to their homes and convey the disease to the younger members of the family. This explains why public school-children escape infection at home, except when medical officers close the schools and send the contacts to their own homes. Frequently by the closure of an infants' school upon the occasion of a first case or even of a first crop of cases the resulting cases occur during school closure, and upon re-opening no further cases are noted, but it is improbable that anything but a slight raising of the average age of disease incidence and a reduced mortality will be effected by such means. Measles would probably not be efficiently controlled until a vaccine had been discovered.

A Note on an Epidemic of Measles at Rotumá.—Mr. B. Glanvill Corney (*vide* p. 252).

Provincial Societies.

MIDLAND MEDICAL SOCIETY.

November the 13th, 1912.

Henoch's Purpura; Intussusception; Resection; Recovery.—Mr. Seymour Barling showed the patient, a boy, aged 4 years, whose mother states that he has always been rather a delicate child with a poor appetite, and for the last twelve months has suffered from stomach ache and frequent sickness. Three weeks before admission the abdominal pain and sickness became more noticeable, and a rash appeared on the buttocks and then spread to the limbs; the rash at first was definitely urticarial, becoming later hæmorrhagic—as the mother describes it, "like bruises." At this time the mother noticed a small amount of blood in the motions. The rash faded in a few days, but fresh crops came out of a similar nature, the spots being smaller, the pain lessened, and the child gradually improved. At 4.30 p.m., however, on the evening before admission he had a sudden violent attack of abdominal pain worse than he had ever experienced previously, was sick, and almost immediately dark fluid blood was passed from the bowel. These symptoms of pain, sickness and hæmorrhage continued more or less throughout the night, but abated somewhat on the morning of admission. When seen by the doctor at 10 p.m., that is, six hours after the attack had started, no lump could be felt in the abdomen.

On admission, twenty hours after the onset of pain, the child was pale and quiet, pulse 128, temperature normal, belly was soft, and an irregular trilobed tumour could be felt lying somewhat transversely in the epigastrium and apparently slightly movable on respiration. *Per rectum* nothing could be felt, but dark fluid blood escaped on removing the finger; the urine contained a quantity of albumin, but gave no reaction to guaiacum. On the knees and ankles, and on the forearms especially in the neighbourhood of the elbows, there was a papular rash, some of the papules showing old hæmorrhages.

Operation immediately after admission: A median incision above the umbilicus revealed a large dark sausage-shaped tumour, which, owing to the kinking of the transverse colon on itself, gave the trilobed appearance which had been noticed on examination. The tumour was about ten inches in length and the apex of the intussuception was in the upper part of the descending colon; the distal half reduced quite easily, leaving the proximal four inches unreduced. After some twenty minutes' manipulation, during which time the peritoneal coat of the descending colon tore, this remaining mass was reduced. In reducing this residual part of the tumour, the caput cæci, the appendix, and then some fifteen inches of the lower end of the ileum were expressed in turn. The appendix, cæcum, and the ileum that had been involved in the intussusception showed extensive interstitial hæmorrhage, and some inches of small bowel were black and apparently gangrenous. The part of the bowel above the obstructed portion was distended by dark blood-stained fluid lying in its lumen. The gangrenous portion, together with some inches on the proximal and distal sides of it, was excised, about

twelve inches in all being removed, the open ends of the bowel crushed and turned in, and the continuity of the gut established by lateral anastomosis.

The patient suffered considerably from shock and was very restless for the first forty-eight hours, but since that time has made satisfactory progress, with the exception of some suppuration in the wound.

Dr. PARSONS remarked that Mr. Seymour Barling's case was the only one in the literature of Henoch's purpura which had recovered after an operation for intussusception involving resection of the bowel. A few cases of intussusception complicating Henoch's purpura were on record, but there were many more cases which had been operated on for intussusception in which none was present. He pointed out that in nearly all cases of Henoch's purpura there were signs of kidney trouble, *e. g.* albumin, and blood, in the stools, which proved a great help in diagnosis.

Mr. NUTHALL had seen a case of acute arthritis of the ankle with hæmorrhages in the skin, abdominal pain, and vomiting, with albuminuria, casts, and hæmaturia, which died. Unfortunately there had been no post mortem.

Mr. SEYMOUR BARLING, in reply, said that in these cases where a lump was palpable in the abdomen (if necessary examining under an anæsthetic), it was justifiable to explore the abdomen to see if there was any intussusception. Operation was not particularly dangerous except for the possibility of hæmorrhage into the wound and the return of the purpura. He had no suggestion to make as to the ætiology of the disease.

November the 27th, 1912.

Tuberculous Laryngitis.—Dr. PARSONS showed a specimen of a tubercular larynx in an infant. There was also marked pulmonary tuberculosis. He also demonstrated microscopical sections of the spinal cord and muscles from a case of progressive muscular atrophy (Hoffman-Werdnig type).

BRITISH MEDICAL ASSOCIATION: BIRMINGHAM BRANCH.

November the 14th, 1912.

Splenic Anæmia in an Infant.—Dr. EMANUEL showed a boy, aged 2 years and 3 months, suffering from splenic anæmia. The child was the fifth of the family, but only one other was alive, the other three having died in infancy. The mother had had no miscarriage. The child had been bottle-fed, and had suffered from gastro-enteritis. The head was rather square, which suggested a syphilitic or rachitic origin. About a year and three months ago the abdomen was noticed to be prominent, and on examination it was found that there was a very large spleen, reaching below the umbilicus and a little to the right of the middle line. The blood-count showed that the red cells were 2,800,000 and the white 12,000 per c.mm. The hæmoglobin was 40 per cent. There was a preponderance of lymphocytes, and a few normoblasts and megaloblasts were present. At this time it was suggested that the spleen should be removed. However, this was not done, and under

treatment the child's condition had gradually improved, so that at the present time the spleen had reached almost its normal size.

Dr. Sawyer said that this case showed an important point, and that was that it was unwise to remove the spleen in an infant, because the condition was very different from the splenic anæmia which occurred in adults. The spleen was nearly always found to be enlarged in young children who suffered from anæmia for any length of time, and with appropriate treatment the spleen diminished in size as the anæmic condition improved. He considered that the anæmia and the enlargement of the spleen were probably produced by a toxin manufactured in the intestinal tract, and that the anæmia was not secondary to the hyperplasia of the spleen.

Dr. Nason agreed with Dr. Sawyer that the causation of the condition was an alimentary toxæmia.

Mr. R. J. Ward said that he had been asked to see the patient with a view to the removal of the spleen, but on account of the unsatisfactory condition of the child at the time the operation was postponed. He was very pleased to find that the improvement had been such that no operation was called for, and he did not think that so severe a procedure was likely to be successful in patients of such tender years.

Dr. Emanuel, in reply, said that the disease in infants was not similar to the splenic anæmia of adults, in whom removal of the spleen was the best chance of recovery. There was, however, a similar condition which was found only occasionally in young children, and in such cases it was necessary for the removal of the spleen to be performed. In most of the cases of secondary anæmia in children when the spleen was enlarged the patient got well without this operation.

Cardiolysis for the Relief of Adherent Pericardium.—Sir Robert Simon read a paper on this subject, and said that until ten years ago cardiolysis had not been attempted, but since that time nineteen cases had been recorded with favourable results, at any rate for a time. The relief was considered to be due to the removal of the restriction caused by adhesions between the pericardium and the chest-wall. He described the case of a boy on whom Mr. Gilbert Barling had performed this operation. The patient was an office boy aged 15 years. At the age of twelve he had had pleurisy on the left side. He had never had an attack of rheumatic fever, but had suffered from "growing pains." After the attack of pleurisy his cardiac symptoms developed, the most noticeable thing being a gradually and progressively increasing dyspnœa. When seen in February, 1912, the legs were œdematous, and there was a considerable amount of ascites. There was marked dyspnœa and cyanosis. The cardiac apex was in the left axillary line, the præcordia was prominent, and there was systolic reaction. There were loud rumours in the mitral area, and also systolic and diastolic bruits over the aortic and pulmonary areas. The liver reached to within a finger's breadth of the umbilicus. Fluid was removed from the pleura and also the abdomen by aspiration. The pulse was very feeble and the rate was about 112. It was decided to perform cardiolysis, and the operation was done by Mr. Gilbert Barling, who removed the costal cartilages and portions of the sixth, seventh and eighth ribs for about four inches from the sternal margin. The anæsthetic given was a mixture of N_2O and oxygen after an injection of atropine and morphia. The patient became very bad during the operation, and artificial respiration was performed. Recovery from the anæsthetic was remarkably quick, and the patient seemed to be better almost immediately.

Four days after the operation the patient was more comfortable than he had been for months, the pulse-rate fell to 60, and the dyspnœa diminished. In July he was walking with no œdema and no ascites. There was, however, myocardial degeneration in this patient, for the pulse-tracings showed that he was suffering from auricular fibrillation.

The diagnosis of adherent pericardium was frequently very difficult, and additional evidence of its presence in any case could be obtained by an X-ray examination of the thorax. When the pericardium was normal the movements of the diaphragm were well marked, the shadow rising with expiration and falling with inspiration, having an incursion of two to three inches, but when there were adhesions between the layers of the pericardium then the movements of the diaphragm during respiration were greatly restricted. The amount of the movements of the diaphragm could be gauged by watching the movements of the abdominal wall, for during ordinary inspiration the epigastrium came forward, whereas if the movements of the diaphragm were only slight this protrusion could hardly be noticed. Absence of these movements in the epigastrium indicated the presence of adherent pericardium. The fibrous pericardium was normally adherent to the diaphragm over a much larger area than was generally supposed. When an adherent pericardium was present this area was greatly increased, and the heart was more firmly anchored to the diaphragm. The pericardial adhesions to the diaphragm may also constrict the inferior vena cava and thereby impede the passage of blood into the right auricle. It was suggested that in addition to the ordinary operation of cardiolysis an attempt might be made to free the adhesions around the inferior vena cava.

Sir Robert Simon demonstrated in a dissected specimen the relation of the fibrous and serous layers of the pericardium with the superior and inferior vena cava and the diaphragm. Some interesting anatomical points were discussed.

Dr. Nason said that the paper was of extreme interest, but he could not help feeling that surgery was invading the realm of medicine even more and more. He thought that cardiolysis must help the heart by relieving it of the resistance and weight of the chest-wall.

Mr. Gilbert Barling said that it was difficult to decide upon the anæsthetic, for local anæsthesia was almost impossible, as there was sure to be considerable pain in stripping the pleura off the chest-wall. N_2O and oxygen were administered, and there was really no difficulty with this anæsthetic. He removed the periosteum with the rib in order that there should be no new bone formation. The pleura was perforated two or three times, but no attempt was made to close the openings. The operation took about twenty-four minutes. The boy recovered very rapidly from the anæsthetic, and in five minutes seemed quite well. This improvement was evidently due to the mechanical relief. Mr. Barling considered that a certain amount of advantage was gained by this operation, but it was probably only temporary. The operation would probably be of much more use if it could be done earlier in the disease before the cardiac compensation was so completely broken down.

Mr. Leedham-Green thought he had seen the first patient on whom the operation of cardiolysis had been performed, as he remembered seeing a case in Berlin in 1903. He had seen several since who had done very well, but he was sure that there were many other cases which had not been reported where no advantage had been gained by the operation. The favourable result depended upon the condition of the heart muscle, for if

there was severe myocardial degeneration then it was very little use attempting cardiolysis. He considered that it was not essential to remove the periosteum, for when such a large portion of the ribs was excised there was no appreciable bone regeneration.

Sir Robert Simon agreed that cardiolysis should be performed preferably in those cases when there was no myocardial degeneration, and also before compensation was greatly damaged. He pointed out how very difficult it was to persuade the parents to allow their children to undergo such a serious operation in the earlier stages of the disease when the children were in comparative comfort.

PATHOLOGICAL AND CLINICAL SECTION.

November the 29th, 1912.

Juvenile Tabes.—Dr. K. D. Wilkinson showed this case in the unavoidable absence of Dr. Stanley Barnes. The patient was a woman, aged 25 years, suffering from tabes, the symptoms commencing at the age of fifteen years. She was totally blind in the right eye, and partially blind in the left. The fundus showed optic and choroidal atrophy. The knee-jerks and ankle-jerks were absent, and there were lightning pains, anæsthesia, ataxia, and loss of muscular pain-sense. The teeth were possibly Hutchinsonian, but were so worn that the bevelling did not show. She had interstitial keratitis. The father and mother both died of tabes, and the patient was one of a family of thirteen, three of whom are alive. There are two brothers healthy and well, and the remainder died in infancy.

Mr. Heaton did not consider that the condition of the teeth were typically that described by Hutchinson, although there was other evidence of congenital syphilis. He described a case in a girl which was diagnosed as gastric ulcer, but which was afterwards found to be one of gastric crises occurring in juvenile tabes.

Dr. Douglas Stanley also agreed that the teeth did not show the characteristic appearance found in congenital syphilis, and described a case of juvenile tabes whose father had died of tabes.

Dr. Sawyer said that he had had under his care two sisters who suffered from tabes, and that in each case the disease had made itself manifest before the age of twenty years. He considered that they were instances of juvenile tabes.

Dr. Melson asked what was the usual age at which the first symptoms of juvenile tabes commenced, and whether there were any difference in the prognosis in this condition and the tabes which occurred later in life.

Dr. Wilkinson replied that juvenile tabes commenced soon after puberty, and that he thought that the prognosis was the same at whatever age the disease commenced. He mentioned another case of juvenile tabes who had been under the care of Dr. Thomas Wilson in the General Hospital, and whose father and mother had died of tabes.

A Case for Diagnosis.—Dr. Douglas Stanley showed a little girl, aged 12 years, with the following history. On October the 5th, 1912, she suddenly developed a headache and her vision became dim, and on the following day she was quite blind. She was then admitted into the Queen's Hospital.

She had had three attacks of acute rheumatism, and was found to be suffering from an old-standing mitral disease. The pupils were dilated, and on examining the optic discs the veins were found to be thrombosed, and equally so in the two eyes. There was no paralysis, and the temperature was normal. On October the 13th the temperature rose to 103° F., and there were bronchitic signs in the lungs. A few days later a large patch of consolidation occurred at the base of the left lung. The knee-jerks were then exaggerated, and the plantar reflex flexor. A few days after this paraplegia developed, the knee-jerks disappeared, the plantar reflex became extensor, and there was incontinence of urine. The eyesight then gradually improved, so that now the patient could see fairly clearly. The condition of the discs was one of optic atrophy, and there was slight lateral nystagmus. The paraplegia had also improved, so that the patient could now walk a little. Sensation was impaired in the legs, and there was a band of hyperæsthesia just above Poupart's ligament.

Dr. Wynn suggested that the disease was one of disseminated sclerosis, and that there had been an infective process in the lungs, which precipitated the nervous condition.

Dr. Sawyer asked for more information with regard to the onset of the blindness. He wondered whether the onset was quite so sudden as the history indicated, for it was difficult to imagine that a thrombosis could occur simultaneously in each eye. If it were really a thrombotic process, then it would be more reasonable to suppose that the thrombosis had commenced in the cavernous sinus, and not in the retinal vessels. This would probably produce proptosis, and he asked if any prominence of the eyes had been noticed. As the eyes now showed optic atrophy, was it not possible that the previous eye condition was one of acute optic neuritis ?

Dr. Douglas Stanley said that the condition of the patient had not suggested to him the diagnosis of disseminated sclerosis. The onset of the blindness was absolutely sudden, and the eyes were affected simultaneously. The veins appeared absolutely blocked, and Dr. Allport had confessed his view that the condition was one of thrombosis of the veins, and had explained the optic atrophy as due to the pressure that had been exerted upon the nerves. He considered that the symptoms were due to an infective process which had produced thrombosis in various places, starting in the retinal vessels and also involving some of the vessels in the lumbar enlargement of the spinal cord. What the infection was he could not suggest, but he did not consider it was of rheumatic origin. He had treated the patient with large doses of citrate of soda.

Société de Pédiatrie, Paris.

March the 11th, 1913. (*Bulletin No.* 3.)

Over-sweetened Milk in Infantile Dyspepsia. — MM. Variot, Lavialle and Rousselot communicated further researches on this subject. They considered the anti-emetic properties of condensed milk due to the excess of sugar. They found that the stools, with milk hypersaccharated and sterilised at 108° for three quarters of an hour, were sometimes more liquid and frequent than with condensed milk ; hypersaccharation of milk in

the cold produced still more marked laxative results. It seemed that scalding milk in the presence of sugar had similar effects to evaporation *in vacuo* for two days.

Friedreich's Disease.—MM. Babonneix and Roederer showed a youth, aged 17 years, in whom the disease first showed itself as a plantar malformation. Juvenile tabes was negatived by the persistence of the knee-jerks and the absence of Romberg's and ocular signs.

Scoliosis from Malformation of the fifth Lumbar Vertebra.—Mme. Nageotte-Wilbouchewitch reported a case, and discussed the treatment by means of a high boot.

Congenital Absence of Iris and Double Cataract in an Infant of 3 Months.—MM. A. Cantonnet and G. Schreiber showed this infant, who was subject to nystagmiform attacks, and whose pupils were widely dilated. The iris was almost completely absent, and there was anterior polar and zonal cataract. The ætiology was obscure—there was no hereditary cause nor syphilis. Treatment could only be palliative.

Incomplete Stenosis of Pylorus.—M. Dufour showed an infant, aged 6 months, who at the age of three weeks began to vomit and waste. Cure was effected by giving small and frequent feeds every hour.

The Frequency of Abscess in Pott's Disease.—MM. Roederer and Weill showed a number of radiographs illustrating this condition. Two facts were drawn attention to. Latent dorsal abscesses are easily detected by radioscopy, while lumbar abscesses, which are so common, even when perceptible to palpation do not give any shadow, especially if caseous. The occurrence of a dorsal abscess necessitates a long period of close watching even after apparent cure, for radioscopy cannot differentiate between abscesses in process of formation, those fully developed and those which have undergone cicatrisation.

Congenital Hypertrophy of Pylorus operated on at the age of 2 Months.—MM. Grenet, Sedillot and Veau reported this case, which was of interest, owing to the cause of death being a ventral hernia. The speakers recommended suturing the abdominal walls in one layer with silver wire left in from fifteen to twenty days.

Congenital Scoliosis.—M. Lance related a number of cases showing the causation of this condition to be due to supernumerary hemi-vertebra and rib, atrophy of half the body of the ninth dorsal vertebra and absence of half the fourth dorsal vertebra and corresponding rib.

The Radiology of Infantile Pneumonia.—MM. Weill and Mouriquand gave the results of fifty-two cases. Out of thirty-three cases of true pneumonia thirty-one gave positive radioscopic signs. In two of these cases there were no stethoscopic signs. In thirteen cases stethoscopic signs appeared late, while radioscopy showed the presence of a shadow on the first examination. In eighteen cases only did the radioscopic and stethoscopic signs exactly correspond. In a following communication the speakers maintained that central pneumonia did not exist, and that radioscopy would reveal a triangular peripheral focus of hepatisation in the absence of all stethoscopic signs. Broncho-pneumonia gave no shadow.

Vincent Dickinson.

National Association for the Prevention of Infant Mortality and for the Welfare of Infancy.

Arrangements are now well in hand for the English-speaking Conference on Infant Mortality, to be held at Caxton Hall, Westminster, on August 4th and 5th. It is under the immediate patronage of the King and Queen, and will be presided over by Mr. John Burns. Lady Aberdeen, Mr. Pease, Sir George Newman and Dr. Arthur Newsholme are among the Chairmen of the various sessions into which the two sections—administrative and medical—are divided. Papers will be read by experts from the United Kingdom, the United States and the Colonies on many aspects of the following questions: The responsibility of central and local authorities in the matter of infant and child hygiene; the necessity for special education in infant hygiene; medical milk problems; the administrative control of the milk supply; and ante-natal hygiene. The United States and a large number of Colonial Governments will be officially represented and the attendance generally promises to be very large. The British railways and steamship companies with services to the colonies and to the States have all granted special travelling facilities, particulars of which are set forth in the detailed programme, which may now be obtained from the Secretary of the National Association for the Prevention of Infant Mortality, at 4, Tavistock Square, London, W.C.

Abstracts from Current Literature.

Medicine.

Methods of estimating kidney function (*'Amer. Journ. Dis. Child.,'* 1913, v, *p.* 25).—**R. M. Smith** discusses the various methods of estimating the function of the kidneys, and calls particular attention to the test afforded by the subcutaneous injection of phenolsulphone-phthalein. In infants and children he has used 3 mgrm. in a 1 c.c. solution, and finds that, as in adults, the drug appears in the urine in about ten minutes. The percentage of the dose excreted within an hour is easily calculated by colorimetric tests. He finds that in nephritis the appearance of the drug in the urine may be retarded and the percentage excreted within an hour is diminished, and regards this as valuable in showing the ability of the damaged kidneys to eliminate toxins and in estimating the danger of uræmia. The test does not assist in determining the ability of the kidney to eliminate proteins, salt and water.

Reginald Miller.

Urea in the cerebro-spinal fluid of infants (*'Arch. de Méd. des Enf.,'* 1912, xv, *p.* 826).—**Nobécourt, Sevestre** and **Bidot** carried out researches in fourteen infants of less than a year old regarding the quantity of urea in a pint of cerebro-spinal fluid. The amount was normal (0·15 gr. to 0·40 gr.) in cerebro-spinal meningitis, tuberculous meningitis, and in infective disease with meningeal reaction. In affection of the kidneys the amount of urea was raised to 0·42 gr. and 0·48 gr. In gastro-intestinal affections it was markedly elevated in amount (1 gramme to 1·50 gr.).

F. R. B. Atkinson.

Comparative amount of urea in the blood, cerebro-spinal fluid and urine in sucklings affected with gastro-intestinal troubles (*'L'Echo Méd. du Nord,'* 1913, XVII, *p.* 1).—**Benoit, Deléarde** and **Hallez** find that a larger amount of urea than 1 gramme per litre is generally followed by death in a short time, and that a relatively small amount of urea, though not always suggestive of a favourable prognosis, is frequently so. They found that in dyspeptic infants fed on cow's milk the amount of urea in twenty-four hours reached on an average 3·270 gr. instead of 1·870 gr. as maintained by Pignerol. Their observations are based on the examination of sixteen cases. F. R. B. ATKINSON.

Somnolent form of azotæmia resembling tubercular meningitis (*'Ann. de Méd. et Chir. Inf.,'* 1912, XVI, *p.* 712).—**Nobécourt** and **Maillet** record two cases of this condition, which is diagnosed by estimation of the amount of urea in the cerebro-spinal fluid. The first case was an infant, aged 2 months, who wasted, had bad stools and some signs of broncho-pneumonia. After some days Kernig's sign appeared, with rigidity of the neck, squint and a flexed condition of all the limbs. The temperature was normal. The cerebro-spinal fluid contained 1·70 to 2·30 grammes of urea in the litre. This child died. The second child, aged 3 months, breast-fed, became very drowsy and wasted. There was slight diarrhœa. The cerebro-spinal fluid contained 0.80 gr. per litre. After lumbar puncture the child rapidly improved. The chief signs of this condition are sleepiness and wasting, and occasionally squint, rigidity, etc. The pupils are usually contracted, and there may be Cheyne-Stokes' breathing. The pulse, though it may be more frequent, is always regular. J. PORTER PARKINSON.

Urobilinuria and urobilinogenuria in breast-fed children (*'Jahrb. f. Kinderheilk.,'* 1912, LXXVI, *p.* 645).—**S. Ostrowski** finds in healthy sucklings the reaction to both these substances is negative. On occasions these reactions in the urine are also negative in children obviously ill. There is no connection between the inferiority of the reaction and the extent of the morbid process. If they are positive a pathological condition, most probably hepatic insufficiency, is present. F. R. B. ATKINSON.

The clinical application of the acetone reaction in children (*'Jahrb. f. Kinderheilk.,'* 1913, LXXVII, *p.* 125).—**G. von Ritter** comes to the following conclusions: (1) The acetone reaction is a valuable diagnostic means in all uncertain febrile or afebrile diseases of children which are to be referred to gastro-intestinal intoxication. (2) It is most valuable between the second and third years of life. (3) If the reaction exists longer than seven days the diagnosis and prognosis should be guarded. (4) In the pure cases of gastro-enterogenous acetonuria the reaction is a guide to treatment, especially as regards diet. F. R. B. ATKINSON.

Congenital stricture of the ureter producing pyonephrosis; nephrectomy (*'Med. Record,* 1912, II, *p.* 895).—**L. Miller Kahn.**—A boy, aged 4½ years, was admitted to hospital with symptoms of intestinal obstruction and a large mass occupying the greater part of the left side of the abdomen. Laparotomy was at once performed. The pelvis of the left kidney was opened and about a quart of fluid evacuated. Some six weeks later the left kidney was removed, and a stricture was found in the left ureter one inch below the junction of the pelvis with the kidney. When

seen one year after the operation the boy was in good health. Only 58 cases have previously been recorded of congenital stricture of the ureter producing pyonephrosis (*v.* Bottomley, '*Ann. Surg.*,' 1910, LII, *p.* 597).

J. D. ROLLESTON.

Congenital hydronephrosis with aplasia of the ureter ('*Arch. of Ped.*,' 1912, XXIX, p. 764).—**F. van der Bogert** records a case in a boy, 4½ months old, whose family history suggested a diagnosis of congenital syphilis. The symptoms were persistent vomiting, frequent micturition, and distress when laid on the left side. Death occurred suddenly. The necropsy showed a markedly distended bladder, a normal right kidney and ureter, with compensatory hypertrophy of the kidney, hydronephrosis of the left kidney, and a ureter on that side ending almost abruptly 2 in. below the renal pelvis.

J. D. ROLLESTON.

Cystic kidneys in an infant ('*Austral. Med. Gaz.*,' 1912, XXXII, *p.* 353).—**W. A. Fraser.**—Post-mortem examination of a case, aged 1 year, 2 months, revealed, besides other morbid conditions, a left kidney consisting of one large sac, and a right one containing gelatinous material in a single sac.

F. R. B. ATKINSON.

Nephritis following impetigo ('*Osp. d. Bamb. d. Milan.*,' 1912, I, *p.* 105).—**L. Pollini.**—Post-impetiginous nephritis does not differ from other varieties of toxi-infective nephritis. It is usually of brief duration and rarely assumes a subacute or chronic course. Pollini records three fatal cases in children aged 4 years, 18 months, and 6 years respectively, in which the nephritis, as shown by histological examination, was acute parenchymatous in the first case, subacute in the second, and chronic interstitial in the third. The lesions are caused by the irritation of the pyogenic organisms and their toxins passing through the kidneys. Unlike scarlatinal nephritis, the glomeruli are least affected.

J. D. ROLLESTON.

Nephritis cured by tonsillectomy ('*Journ. Amer. Med. Assoc.*,' 1913, LX, *p.* 742).—**T. G. Orr** reports the case of a boy, aged 3 years, whose abdomen had been swelling for two months. When seen there was general anasarca, with fluid in the pleural and peritoneal cavities. The tonsils and adenoids were hypertrophied, and the urine contained a heavy cloud of albumin and many hyaline and granular casts. The œdema increased and the right pleura and peritoneum had to be tapped, but for five and a half months the serous cavities were never free from fluid. With treatment the œdema became less, but soon reappeared, and all attempts to eliminate the source of infection by colon and nasal irrigation and extracting decayed teeth were unsuccessful. During the entire time the urine was never free from albumin. Cultures from the nose and throat grew the *Staphylococcus pyogenes aureus*, and an abscess in the left tonsil was evacuated. Subsequently the tonsils and adenoids were removed, the latter being very large and showing suppurative infection. A rapid improvement in the child's condition immediately occurred, and by the end of twelve days the œdema had entirely disappeared and the urine contained only a faint trace of albumin. Three and a half months after the operation the patient reported himself. There was no œdema and no albumin was present in the urine. Only a rare hyaline cast could be found. The author also reports the case of a nurse

whose throat harboured bacilli a month after an attack of diphtheria. The tonsils were removed and all subsequent cultures proved negative.

T. R. Whipham.

Chronic renal diseases in childhood (*'Jahrb. f. Kinderheilk.,'* 1913, lxxvii, *p.* 1).—**O. Heubner.**—Out of 17,000 children admitted to hospital in the course of seventeen years, 73, whose ages varied from 0 to 14 years, had some form of chronic renal disease; 37 were boys, 36 girls. Forty-eight, *i. e.* two thirds of the cases, occurred between the seventh and thirteenth year. Severe forms were one and a half times as frequent in boys as in girls, but renal disease secondary to pyelitis was found exclusively in girls. (1) 30 cases, 17 boys and 13 girls, were examples of "chronic hæmorrhagic nephrosis," a condition practically only met with in childhood. It differs from the chronic hæmorrhagic nephritis described by Wagner, in which hæmaturia is only a periodic phenomenon, by the constant presence of blood of greater or less amount. The quantity of urine is usually below normal. The albumin content is usually high. The sediment shows blood-cells and all kinds of casts. This form is further characterised by presence of dropsical swellings. The heart may or may not be affected. The blood-pressure is usually normal. Post mortem a combination of interstitial and parenchymatous processes is found. The disease may last for years or be fatal within six months. Ten cases were subjects of the exudative diathesis, 9 had had some specific infection. (2) This group, comprising 10 boys and 6 girls, differed only from the first in the absence of hæmaturia. The pathological anatomy was that of large white kidney. The blood-pressure in most cases was normal; only in a few was it raised. In some cases there was a history of infectious diseases, but in many no ætiological factor could be discovered. (3) Contracted kidney. Only 1 case of this occurred—in an idiot, aged 3 years, whose father had plumbism. (4) Chronic renal disease secondary to pyelitis. Six cases in girls only, chiefly in early childhood. *B. coli* was usually present; streptococci were found in 1 case. (5) Thirteen cases of mild nephritis, 9 of whom were girls and 4 boys. All but one child, aged three years, were above six years, and seven were between ten and twelve. Dropsy is never present. The albuminuria is almost always slight. The sediment shows hyaline and granular casts, leucocytes and sometimes red cells. Hæmaturia occasionally occurs, and is almost always associated with mild infections of other organs, especially the tonsils. The blood-pressure was always normal. The albuminuria may last for years, but Heubner has never known either form to be converted into any of the severe ones described above. Infections play an important part in the ætiology, especially scarlet fever. Treatment is ineffectual, and apart from avoiding chills and irritating articles of diet no special measures need be taken. (6) Intermittent albuminuria. Only 4 cases were met with. The ætiology and treatment are the same as in (5).

J. D. Rolleston.

Hæmoglobinuria in a child; injection of diphtheria antitoxin; recovery (*'Paris Méd.,'* 1912–13, i, *p.* 246).—**R. Marie** and **H. Rouèche.**—A boy, aged 6 years, suffering from pulmonary tuberculosis, but without any sign of inherited syphilis developed hæmoglobinuria about three weeks after the onset of acute nephritis. As other treatment proved ineffective diphtheria antitoxin was given as recommended by Lesage and Galliot (*v.* British Journal of Children's Diseases, 1912, ix, *p.* 180). After three

injections the urine became quite clear in three days and free from albumin in three weeks. J. D. ROLLESTON.

Paroxysmal hæmoglobinuria (*'Amer. Journ. Dis. Child.,'* 1912, IV, p. 311).—**L. C. Ager** reports a case in a girl, aged 3¼ years, in whom the first attack occurred in the second year of life, and believes this to be the youngest reported case. Wassermann's test was positive in the mother and child, negative in the father. Of 36 cases of paroxysmal hæmoglobinuria, including the present, collected by Ager, 17 had congenital syphilis, 15 acquired syphilis, 2 gave a positive Wassermann's reaction, and in 2 the question of syphilis was not determined. J. D. ROLLESTON.

Renal calculus in childhood (*'Brit. Med. Journ.,'* 1913, I, p. 112).—**R. Ollerenshaw** reports two cases in children aged respectively 3 and 8 years, in which nephro-lithotomy was successful. He thinks such cases are much more common during childhood than is generally supposed. In cases of abdominal, spinal, hip-joint or lumbar pain, where the signs and symptoms are not clear, the urine should be carefully tested and a microscopic examination made. The kidney area should be closely examined and a skiagram taken of the whole urinary tract. If possible a cystoscopic examination should also be made. In the absence of sepsis prognosis is excellent. Post-operative shock is the only real danger. J. ALLAN.

Ruptured sarcoma of the right kidney simulating appendicular abscess (*'Practitioner,'* 1912, LXXXIX, *p.* 722).—**G. C. F. Robinson** describes this remarkable case, only discovered on operation, which consisted of removal of the growth and ended successfully. The rupture was caused by a fall. F. R. B. ATKINSON.

Sarcoma of the kidney (*'La Med. de los Niños,'* 1913, XIV, *p.* 34).—**Moncorvo,** of Rio de Janeiro, describes a case of sarcoma of the right kidney in a child of fifteen months which was removed by operation; the child died twenty-one hours later. The tumour weighed 3 kilos. 430 grms.; its macroscopic and microscopic examination confirmed the diagnosis.

M. D. EDER.

Perirenal hæmatoma following scarlet fever (*'Deutsch. med. Woch.,'* 1913, XXXIX, p. 24).—**W. Hering.**—A boy, aged 7 years, three weeks after the onset of scarlet fever developed pain in the umbilical region and a painful swelling of the left testis, followed by symptoms of peritonitis. Incarceration of the omentum in a congenital hernia was diagnosed and laparotomy performed. A sero-fibrinous exudation was found in the peritoneal cavity. There was no internal hernia nor strangulation of the bowel, and the appendix was normal, but the posterior parietal peritoneum in the region of the left kidney was projecting forward and extensive retro-peritoneal hæmorrhage was found in this region. The urine contained no blood nor albumin. Death took place on the third day after operation. The necropsy showed that the kidneys were normal, and the source of the hæmorrhage could not be ascertained. It was an open question whether it had originated in the suprarenal as sometimes occurs in acute infections, or was a localisation of capillary hæmorrhages in the retro-peritoneal tissues in consequence of a post-scarlatinal hæmorrhagic diathesis. J. D. ROLLESTON.

Incontinence of urine in children (*'Edinb. Med. Journ.,'* 1913, i, *p.* 49).—**J. W. Simpson** points out that when a case of enuresis presents itself the first thing to be done is by examination to classify the case either as one of simple incontinence—that is, one without any definite pathological cause—or an incontinence of a graver character due to some well-marked pathological condition. After discussing various ætiological factors he deals with the treatment of simple incontinence. Regarding drug treatment he lays stress on the fact that the cases ought to be grouped according to the composition of the urine, and four such groups are differentiated: (1) In some cases the urine presents no abnormal features. This "normal" condition is often seen in a case of incontinence following some debilitating illness, which has reduced the strength of the patient. For these cases belladonna in fairly large doses is advised. (2) The urine is found extremely acid, loaded with urates, of high specific gravity, and often diminished in quantity. Here one should try to reduce the acidity of the urine by giving citrate of potash in doses of 10 gr. thrice daily. (3) The urine is found to be neutral or alkaline, usually of low specific gravity, often containing triple phosphates, sometimes also a few pus-cells with a trace of albumin, frequently much increased in quantity. For such acid sodium phosphate may be prescribed. (4) Urine may contain bacilli. In these cases urotropine (5 to 10 gr. thrice daily) is often useful. If there is mixed infection salol is often more efficacious. Vaccine therapy may also occasionally be advantageous. In the author's experience thyroid treatment has been disappointing, but he thinks it ought always to be tried in those cases in which the child is markedly backward mentally. Various general, dietetic and hygienic measures are discussed.

J. Allan.

Pseudo-lumbar puncture in enuresis (*'La Pediatria,'* 1912, xx, *p.* 754).—**G. B. Allaria** gives notes of twenty-three cases in support of his contention that pseudo-epidural puncture, carried out subcutaneously in such a way as only to wound the nerve-roots of the cauda equina and not to irritate the spinal centres, gives, in cases of essential enuresis, curative results comparable to those of true epidural puncture.

Vincent Dickinson.

Diabetes insipidus in tuberculous children (*'Gazz. internaz. d. med. chir., etc.,'* 1913, *p.* 153).—**G. di Giorgio** records two cases of diabetes insipidus in boys, aged 3 and 4½ years respectively, both subjects of pulmonary tuberculosis. In the former the polydipsia and polyuria had been first noticed at the age of 28 months, and became more marked after an attack of measles four months later. The mother, aged 21 years, had also had diabetes insipidus since she was 16. The other patient had a family history of tuberculosis, but not of diabetes. The fate of the children is not recorded.

J. D. Rolleston.

Precocious menstruation (*'Inaugural-Dissertation, Berlin,'* 1912).—**Marie Macijewska** has collected nineteen cases of regular menstruation in children aged from four months to six years, and distinguishes three classes: (1) Cases in which tumours are found in the ovaries or tubes at operation or post mortem; (2) cases with an abnormal skeletal development, *e. g.* rickets or osteo-malacia; (3) cases with excessive bodily development.

J. D. Rolleston.

Precocious menstruation with milk in breasts of infants of two generations (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 539).— **J. L. Vallely** reports a family of three girls showing both the above phenomena, and one boy showing the latter only. The father of the family was one of a family of seven girls and four boys, all of whom were affected when newly born.

REGINALD MILLER.

Sarcoma of the vagina (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 509). —**P. B. Bland** reports two cases of this disease, making 106 altogether in the literature. It may be of two varieties, the grape-like or sarcoma botryoides, and the more or less circumscribed form. The former occurs very early in life; of the thirty-five cases recorded, twenty-nine occurred before the third year and all before the fifth year. Eight cases of the circumscribed form developed in children from eight to thirty-one months old. The botryoid variety is exceedingly fatal: only one case was free from a recurrence after free extirpation after three years.

F. R. B. ATKINSON.

Diatheses in children (*'Arch. de méd. des enf.,'* 1912, XV, *p.* 433).—**G. Schreiber** considers the lymphatic and arthritic diatheses in children. *Lymphatic.*—The children have a bad family history: their colour is pale, and the belly enlarged, the glands are enlarged, and tuberculosis readily occurs. The child is also a ready prey to all forms of microbes. Coryza and anginas are frequent. Blepharitis, bronchitis, vulvo-vaginitis are not uncommon. Hypertrophy of the thymus is often present, and many authors give the name of status thymico-lymphaticus to this diathesis. *Arthritic.*— Troubles of nutrition and digestion, constipation, eczema, impetigo, are often present. The face is frequently florid, but an anæmic appearance is not uncommon. In later childhood two types present themselves—a fat and a thin. According to Comby, the following are the manifestations of the arthritic diathesis. Irregularity of the pulse, bradycardia, arrhythmia, tachycardia, inorganic murmurs, syncope, coryza, fever, laryngismus stridulus, bronchitis, asthma, pleurisy, pulmonary congestion, anorexia, boulimia, colic, dyspepsia, muco-membranous enteritis, albuminuria, polyuria, nocturnal enuresis, cystitis, insomnia, convulsions, nightmares, megrim, chorea, hysteria, lumbago, torticollis, erythemata, acro-asphyxia, acne, seborrhœa, urticaria, adenoids, enlarged tonsils, etc. Some authors comprise under the name of the exudative diathesis all the symptoms previously described as belonging to the arthritic form.

F. R. B. ATKINSON.

Tetany and the parathyroids (*'Osp. d. Bamb. d. Milan.,'* 1912, I, *p.* 101).—**L. Pollini** alludes to his recent paper (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, *p.* 515), and records two other fatal cases of tetany in girls, aged 10 to 15 months respectively, in which the histological findings in the parathyroids were negative. That too great importance has been attached to parathyroid hæmorrhage in the production of hæmorrhage has been proved by the negative results of Jovane's experiments on dogs (*ibid., p.* 516). Impaired function of the parathyroid is, however, possible in the absence of an anatomical substratum, for the normal structure of a gland of internal secretion is not a gauge of its functional integrity.

J. D. ROLLESTON.

Pituitary syndromes in children (*'Thèses de Paris,'* 1912–13, *No.* 70).—**G. Gaillard** describes three varieties: (1) Acromegaly, which, as a rule, is incomplete. It may be congenital, or appear at any age between one and fourteen years. It is sometimes hereditary or familial, and in two cases has been associated with heredo-syphilis. Glycosuria, which is an important symptom in the adult, has never been found in the child. (2) Adiposo-genital syndromes: This is characterised by the co-existence of generalised or local obesity with functional or organic disturbance of the generative system. (3) The syndrome of cerebral tumour without acromegaly, but sometimes accompanied by special symptoms, such as polyuria. An examination of recorded cases shows that acromegaly is associated not so much with isolated lesions of the hypophysis as with organic or functional changes in the glands of internal secretion, so that in the child, as in the adult, acromegaly is a pluri-glandular syndrome. J. D. Rolleston.

Cyst of the pituitary gland with pressure symptoms; operation; recovery (*'Austral. Med. Journ.,'* 1912, i, *p.* 748).—**J. R. Lee** describes the case of a girl, aged 10 years, suffering from symptoms of diabetes insipidus, bitemporal hemianopsia, and some symptoms of acromegaly. Operation revealed a cyst of the pituitary gland. The cyst was opened and lightly scraped and the cavity swabbed out with pure peroxide of hydrogen. All the symptoms disappeared, and recovery took place. F. R. B. Atkinson.

Abnormal physical and sexual development in an infant probably due to a pineal tumour. (*'Arch. of Ped.,'* 1913, xxx, *p.* 179).—**J. L. Morse** records a case in a male child, aged 23 months, who had begun to grow very rapidly when he was 6 months old. Body length, 98 cm. (normal, 82·8 cm.); circumference of head, 52 cm. (normal, 48·2 cm.); circumference of chest, 54 cm. (normal, 48·4 cm.); weight, 35 lb. (normal, 26·5 lb.). There were a large amount of pubic hair and a slight excess of hair in axillæ. Penis measured $7\frac{1}{2}$ cm. when flaccid and 10 cm. when erect. Testes were the size of robins' eggs. There were no signs of sexual feeling and no spermatozoa in the urine. Blood-pressure 85 mm. Fundi and cranial nerves normal. Intelligence that of a child of 16 months. X rays showed a bony development corresponding roughly to that of a child aged $6\frac{1}{2}$ years. The sella turcica was not enlarged, and the absence of enlargement of hands and feet and the marked development of sex characteristics excluded pituitary tumour or hypersecretion. It was, however, impossible to determine whether the disease lay in the pineal gland or in the adrenals. J. D. Rolleston.

Delayed development in a boy treated with thymus gland (*'Amer. Journ. Med. Sci.,'* 1912, cxliv, *p.* 219).—**C. G. Kerley** and **S. P. Beebe.**—A boy at the age of 16 years was 56 in. high and weighed 76 lb.—the measurements of a boy of 12. The penis was small and shrunken, the testes very small; there had never been any erection and there was neither pubic nor axillary hair. Fifteen grains of desiccated thymus extract daily were ordered to the exclusion of all other medication. During the first six months of treatment the genitals enlarged, and after nine months, at the age of 17 years and 10 months, the first erection occurred. After a year's treatment he had gained 1 in. in height and 11 lb. in weight, and hair appeared on the pubis and in the axillæ. During the next six months of treatment he gained another 2 in. and $8\frac{1}{4}$ lb. in weight. The voice changed when he was 18 years and 4 months. J. D. Rolleston.

Enlargement of the spleen in infancy (*'Thèses de Paris,'* 1911–12, *No.* 437.)—**Mlle. F. Le Scornet.**—Of 1143 children in Marfan's service at the Hôpital des Enfants malades, 152 cases, or 13·2 per cent., had some enlargement of the spleen: 64 of these showed more or less certain evidence of heredo-syphilis, 32 similar evidence of tuberculosis, 17 were suffering from prolonged infections, such as prolonged pneumonia or multiple abscesses, 10 from chronic digestive disturbances, and the rest were not classified. Of the syphilitic cases 73 per cent. were younger than six months, whereas only 27 of the tuberculous cases were below that age. Enlargement of the spleen does not add to the gravity of the prognosis in any of the cases except the tuberculous, in which it is of very grave import. Brief histories of 129 cases are given.

J. D. Rolleston.

Addison's disease (*'Lancet,'* 1913, i, *p.* 449).—**Frederick Langmead** describes a case in a boy, aged 10 years. The patient died four hours after admission to hospital. About twelve hours before, vomiting had started abruptly and was accompanied by restlessness and followed by loss of consciousness. The elbows, wrists and knees became rigidly flexed. The abdomen was retracted. Frequent convulsive seizures occurred until death. Cerebro-spinal fluid withdrawn by lumbar puncture was normal. The pigmentation was no more than a slight diffuse brownness of the skin, which, it was learnt from the mother, had been present for about twelve months. The child had been subject to attacks of diarrhœa for "several months" and had got gradually weaker. *Post-mortem.*—The suprarenal glands were found to be replaced almost entirely by fibro-caseous material which proved to be tuberculous under the microscope. There were considerable enlargement of the spleen and some hyperplasia of other lymphatic structures. A specially interesting point was the smallness of the heart, clearly due to a true hypoplasia, the result of gradual diminution of the vascular tension. From a study of the literature it appears that in children a greater proportion of cases of Addison's disease run a very acute course than in adults. The pigmentation is usually less obvious, and death from convulsions and coma would appear to be relatively more common.

Author's Abstract.

Acute suprarenal insufficiency in epidemic infectious diseases (*'Arch. de méd. et de pharm. mil.,'* 1912, lx, *p.* 13).—**J. Chauliac** records four cases of scarlet fever in soldiers who developed signs of acute suprarenal insufficiency, viz. low blood-pressure, abdominal pain with diarrhœa and vomiting, somnolence, prostration, and a relatively low temperature. Two died, while two who were treated by oral administration of adrenalin rapidly recovered (*cf.* British Journal of Children's Diseases, 1912, ix, *p.* 324).

J. D. Rolleston.

The rôle of the suprarenals in the pathology and treatment of diphtheria and other infectious diseases (*'Jahrb. f. Kinderheilk.,'* 1912, lxxvi, *Erg.-Heft., p.* 200).—**W. Moltschanoff** examined the suprarenals of forty-two children, twenty-nine of whom had died from diphtheria, six from scarlet fever, and the rest from other infectious diseases. He also examined the suprarenals of two children who had died from accidents, and the suprarenals of guinea-pigs killed by diphtheria toxin. In all the diphtheria cases there were extensive hyperæmia and occasionally small hæmorrhages, especially in the medulla. The degree of the vascular lesions

depended, not on the duration, but on the severity of the disease. Mixed infections, such as measles and diphtheria, increased the vaso-motor lesions. The changes in the cells varied, and depended on the duration of the disease. The author's conclusions are as follows: (1) The *rôle* of the suprarenals in diphtheria is very important and complicated. (2) The suprarenals take an active part in combating the diphtheria toxin, although at present the exact nature of this *rôle* is uncertain. (3) In the initial stage of diphtheria the suprarenals show increased functional activity, which in severe degrees of intoxication leads to exhaustion and atrophy of the cells. (4) This atrophy, associated with well-marked circulatory disturbances in the gland, is the cause of the diminution of the functional activity of the suprarenals in severe cases of diphtheria. (5) Acute functional insufficiency of the suprarenals causes a number of severe symptoms in diphtheria, and may lead to the death of the patient. (6) Adrenalin is a powerful agent for raising the depressed cardio-vascular tone in infectious disease.

J. D. Rolleston.

Dermatology and Syphilis.

Ritter's disease (*'La Pediat.,'* 1912, x, *p.* 353).—**P. Sorgente** describes fully two cases of this disease (dermatitis exfoliativa neonatorum) in children aged 16 days and 2 months, with illustrations of sections of the skin. In the second case the desquamation was at no time preceded by bullæ or redness of the skin, and the cutaneous changes were more superficial, indicating that the congenital weakness of the skin resided principally in the epidermic layers, and lending support to the view of Kaposi and others that this condition is merely an exaggeration of the physiological phenomenon of desquamation in the newborn. In the other case the author credited alcoholism in the mother as a possible cause, while the fact of her having suffered from scarlatina in the eighth month of pregnancy was significant. Sorgente concludes that in the present state of our knowledge this disease, from a clinical point of view, must be classed among those of acute pemphigus in the newborn, of which it represents a grave type. Unlike acute pemphigus, however, it may be produced not only by parasitic causes, but also by factors mainly or exclusively toxic, or simply by mechanical irritants. The histological changes in the skin may vary considerably in intensity and depth. Some essential predisposing cause, such as congenital weakness of the skin, must be admitted. The disease is very serious, but not absolutely fatal.

Vincent Dickinson.

Three cases of family dystrophy of the hair and nails (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 27).—**J. S. Eisenstaedt** reports the history of three brothers, aged 14, 9, and 1 year respectively, who all present an atrophy of the hair and nails. On the scalp is a moderate growth of pale downy hairs, none of which is over two or two and a half inches in length. The hairs grow very slowly. The ends are pointed, and none is split or broken off. They are very easily removed and do not break on traction. There seems to be some anomaly in their implantation. Here and there at wide intervals are normally implanted coarser brown hairs. Microscopically the hairs present nothing abnormal, and no parasites were found. The eyebrows are very poorly developed, only a small number of lanugo hairs being present. The eyelashes are extremely sparse and pale, and there is no trace

of axillary or pubic hair. The distal phalanges of the hands are increased in volume and the skin over them is thickened. The nails show an enormous hypertrophy of the nail-bed, and are kept short as they are brittle and tend to crack. There is no paronychia. The toe-nails are affected in a similar manner, but to a less degree. There are five other children in the family, but none of them is similarly affected, and there is no sign of hereditary syphilis. The condition has been present in the four previous generations of the family, both males and females having been affected. The author suggests a possible relationship between the condition and acanthosis nigricans, especially as the mother, who was affected, died from some malignant abdominal growth. T. R. WHIPHAM.

Abnormal tuft of hair and plica neuropathica (*'Urol. and Cut. Rev.,'* 1913, XVII, *p.* 78).—**W. Knowsley Sibley** reports a case in a girl, aged 11 years, who was born with a hairy growth over the sacral region. The child was healthy and had no other congenital abnormalities. She was brought to hospital because parts of the tuft were matted together and could not be combed out. Microscopical examination showed the matting to be due to the hairs being encircled by numerous linen fibres. The writer proposed to destroy the growth permanently by repeated applications of full doses of X rays. J. D. ROLLESTON.

Mongolian spots (*'Osp. d. Bamb. d. Milan.,'* 1912, I, p. 111).—**I. Cacciani.**—Out of 2000 children between the ages of one month and six years examined at the Milan Children's Hospital between April, 1911, and June, 1912, 22 showed these spots in the lumbo-sacral region. In one of these there was also a spot on the right shoulder, and in another two spots on the tibiæ. The size, shape, number and colour varied. They might be as small as a centime or as large as the palm of the hand. In shape they were circular, oval, or horse-shoe. Their number ranged from one to five; their colour might be bluish-grey or dark blue. J. D. ROLLESTON.

Urticaria treated with epinephrin (*'Amer. Journ. Med. Sci.,'* 1913, CXLV, *p.* 373).—**A. W. Swann** records six cases of urticaria, all but one of which occurred in children aged from $3\frac{1}{2}$ to 10 years, in whom subcutaneous injection of adrenalin solution (♏ij–iv) was followed by rapid disappearance of the erythema and the wheals. The dose was repeated in ten minutes, and the two doses sufficed in each case to cause complete fading of the rash. In the three most severe cases, which were all serum rashes, the wheals began to reappear from one to two and a half hours after the first dose of epinephrin. In every case but one the wheals began to fade after a marked rise in blood-pressure had occurred and continued to fade while the pressure was rising or was still above normal. Swann suggests that the treatment might be useful in other similar but more serious conditions, *e.g.* angioneurotic œdema, œdema glottidis or anaphylaxis with severe bronchial spasm and œdema. J. D. ROLLESTON.

Infantile eczema (*'Journ. Amer. Med. Assoc.,'* 1912, LVIII, *p.* 995).—**C. A. Simpson.**—Baths of every kind should be forbidden. In acute cases fomentations of resorcin and acetate of aluminium (10 gr. of resorcin, $\frac{1}{2}$ pint of water, acetate of aluminium, two table-spoonfuls in 250 c.c. of water) may be employed, and if these fail then rice-powder well powdered several times a day should be used. When the dry stage is nearly reached, one of the

following ointments is valuable: 3–5 per cent. of boric petrolatum or unguentum vaselin plumbicum. The latter is made as follows: Petrolatum is added in equal quantity to plumbi oxidi ʒiij, olei olivæ ʒxv, olei lavandulæ ʒij, aq. *q.s.* to make a rather stiff ointment. If either of these fail, then Lassar's paste is in place. When absolute dryness results and hyperæmia is less pronounced, then the following lotion is of value: Zinc oxide and starch āā ʒv, glycerini ʒiij, aq. destill. ʒiij. If there is marked itching some form of tar should be used, as liq. carb. deterg. ʒij, zinc oxide ʒv, glycerini ʒviij, aq. destill. ʒiij, or oil of cade, birch tar, or beechnut oil. The amount of tar must be very small at first. The author recommends particularly anthrasol 25 drops, lanolin 2½ oz., starch and zinc oxide, each 5 drm., and also lenigallol or thiol. Vaccine treatment has proved disappointing. F. R. B. Atkinson.

Lupus erythematosus in a girl, aged 9 years (*'Hospitalstidende,'* 1912, lv, *p.* 1359).—**C. Rasch.**—The father had died of tuberculosis six years previously, a sister was tuberculous, and the patient herself had had tuberculosis of the bones of the foot for six years. The skin affection had begun six months previously and involved the nose, both cheeks, hands and feet. Von Pirquet positive. A cure was affected by salicylic plasters and Finsen light treatment. J. D. Rolleston.

Rodent ulcer of the back in a boy of twelve (*'Brit. Journ. Derm.,'* 1912, xxiv, *p.* 391).—**J. H. Sequeira.**—The boy had had a "mole" over the left scapula since he was two years old. It grew very slowly until he received a severe blow on it two months before admission, when it grew rather rapidly. On admission there was a rounded flat swelling on the back the size of a sixpence, three quarters of an inch above the inferior angle of the left scapula. A dry crust covered the middle of the growth, which had all the clinical characters of rodent ulcer. Microscopical examination confirmed the diagnosis. Cure followed the application of 16 mgrm. of radium.
J. D. Rolleston.

The chronic purpuras of childhood (*'Gaz. des Hôp.,'* 1912, lxxxv, *p.* 2113).—**Deléarde** and **G. Hallez** divide purpuras into the chronic hæmorrhagic and the chronic simple types, and relate in detail a case of the former, which lasted two months. The cause was obscure; visceral lesions seemed absent, especially in the liver and kidney. There was no albuminuria; elimination of methylene blue and urinary ingredients was normal. There was no alimentary glycosuria or hypoazoturia, and the slight urobilinuria found was due to the absorption of the extravasated blood. The heart, pulse, and arterial tension were normal. The blood was normal in corpuscles and coagulation-time. The symmetry of the eruption, which only appeared on the limbs, suggested a nervous origin, but there was no evidence of nerve disease. The case was evidently one of so-called chronic simple purpura, some varieties of which appear to have a rheumatic origin, while some are called orthostatic when they come on after slight fatigue. To these varieties one may add those which arise in the course of nervous diseases, but these are most usual in adults, and the same may be said for those that occur in arteriosclerosis. Possibly the infantile cases are due to a special fragility of the small blood-vessels. Chronic hæmorrhagic purpura is more frequently seen in children than the other type. Here the eruption affects the mucous membranes as well as the skin, leading to hæmorrhages. There is generally

a blood-change, a diminution of hæmatoblasts and a want of shrinkage of blood-clots. It is chiefly seen between the ages of six and fifteen, and is more common in girls. The most frequent hæmorrhage is epistaxis. It is often intermittent, with long intervals of health. Out of thirty-six cases there were seven of tubercle and five of suspected tuberculosis. Vaso-constrictors such as adrenalin, hamamelis and tannin are useless. Chloride of calcium deserves a trial. Weill has found subcutaneous injections of fresh horse-serum useful. Nobécourt and Tixier have used subcutaneous injections of Witte's peptone and chloride of sodium.

J. Porter Parkinson.

A small epidemic of an areata alopecia (*'Brit. Journ. Derm.,'* 1913, xxv, *p.* 51).—**T. Colcott Fox.**—The epidemic occurred at the Bethnal Green schools. Twenty-one girls, aged from 9 to 14 years were affected. All the cases were seen in an early stage. The patches of alopecia ranged from the size of a finger-nail to a shilling. In almost all there was only a single patch, which might be located in any part of the scalp. Repeated examination of the hairs was negative and no organisms could be cultivated. Rapid cure followed the application of ung. hydrarg. ox. rub. with cantharides. J. D. Rolleston.

Sodium carbonate in ringworm (*'Brit. Med. Journ.,'* 1913, i, *p.* 498).—**W. W. Nock** advises sodium carbonate in ringworm. A piece of sodium carbonate is taken and one end of it is melted. The melted end is freely rubbed into the ringworm, and particularly thoroughly if it is in the scalp, which must have the hair round cut short. One application is sufficient on the body, but on the scalp it may be necessary to repeat it six or seven days later. Usually no dressing is necessary, though if sore, boric acid ointment may be used. The treatment is painless and leaves no permanent mark.

J. Allan.

Iron perchloride in ringworm of the scalp (*'Brit. Med. Journ.,'* 1913, i, *p.* 390).—**J. H. Garrett** advises that strong perchloride of iron should be dabbed on the scalp with a camel-hair brush until the scalp is thoroughly stained with it. The patches affected should be treated every second day for three times, afterwards every third day for six times, when the cure will generally be effected, although the disease has been very extensive. The head should not be often washed during the treatment. J. Allan.

Anti-streptococcus serum in treatment of vaccinal ulcers (*'Arch. of Ped.,'* 1913, xxx, p. 139).—**L. A. Sexton** recommends the local application of this serum for indolent vaccinal ulcers. The wound is filled with serum, covered with a small dressing of the same, over which is placed oiled silk. The dressing is re-moistened three or four times daily without being removed. Rapid healing always takes place. J. D. Rolleston.

Diagnosis of congenital syphilis (*'Practitioner,'* 1913, xc, p. 624).—**H. L. McCarthy** has tested the serum reaction in 57 cases: 16 children under four years of age, with manifest congenital disease, all gave a positive reaction. Of 14 cases suffering from early rickets in which a syphilitic taint was suspected from the family history, a positive reaction was present in 9 cases. Of 27 older children, with well-marked signs, a positive reaction was

present in 22 cases. He considers a negative reaction has only a relative value, whereas a positive reaction invariably denotes the presence of syphilis.
F. R. B. Atkinson.

Congenital syphilis with marked anæmia (*'Hospitalstidende,'* 1912, LV, *p.* 1359).—**C. Rasch.**—An infant, aged 1 month, whose mother had been infected during pregnancy, in addition to the ordinary signs of congenital syphilis, presented marked pallor of the skin. Blood examination was as follows: Hæmoglobin, 40 per cent.; red cells, 1,400,000; poikilocytes (about five in a field), macrocytes, no nucleated cells. White cells, 17,000. Polymorphs 28·5 per cent., large lymphocytes 8·9 per cent., small lymphocytes 54·7 per cent., transitionals 7·9 per cent., eosinophiles *nil.* Under treatment with calomel and perchloride of iron some improvement took place, and the hæmoglobin rose to 50 per cent. While a slight degree of anæmia in congenital syphilis is not uncommon, so severe a case is extremely rare.
J. D. Rolleston.

Syphilitic disease of bones and joints in children (*'Med. Press and Circ.,'* 1913, I, *p.* 333).—**O. L. Addison,** in discussing some of the commoner bone and joint affections met with in childhood, points to the importance of carrying out the Wassermann reaction. He emphasises the frequency with which the ordinary accepted signs of congenital syphilis were absent in these cases, and the lesion for which the child was brought up was the only sign of the disease to be found.
J. Allan.

Pneumo-bacillus septicæmia with severe suprarenal hæmorrhage in congenital syphilis (*'Jahrb. f. Kinderheilk.,'* 1913, LXXVII, *p.* 190).—**E. Conradi.**—A premature newborn child was admitted to hospital for umbilical suppuration. The skin of the whole body, especially the face, was markedly yellow, but there was no definite icterus. There were profuse purulent rhinitis and superficial ulceration of the hard palate. The skin of the face and trunk showed brownish red spots, some of which were scaly. Temperature subnormal. Death preceded by marked cyanosis took place the following day. Post mortem the suprarenals were found to be of a dark blue colour and each about the size of a cherry. On section all but a narrow strip of cortex was filled by a dark red hæmorrhage. A pure culture of pneumo-bacilli was obtained from the heart and spleen. The lungs were normal. The umbilical cord was probably the source of infection, though the nostrils and palate could not be excluded. A review of the literature is given, reference being made to Waterhouse's case (*vide* British Journal of Children's Diseases, 1911, VIII, *p.* 24).
J. D. Rolleston.

Interstitial keratitis (*Dub. Journ. of Med. Science,'* 1913, I, *p.* 87).—**F. A. Anderson** contends that this disease is frequently caused in subjects of inherited syphilis by a super-imposed infection with the tubercle bacillus. The author urges the routine use of the tuberculo-diagnostic test in all cases that present themselves for treatment. Of the various diagnostic methods for tuberculosis that by the subcutaneous injection of Koch's old tuberculin is of most value in these cases. Anti-specific treatment should be combined with tuberculin therapy, small doses of tuberculin being given at long intervals.
J. Allan.

Spirochætes in the viscera of a newborn infant whose mother had received an intravenous injection of "606" during pregnancy. Streptococcic septicæmia in a heredo-syphilitic suckling (*'Gaz. hebd. des Sci. Méd. de Bordeaux,'* 1913, xxxiv, *p.* 87).—**Dupérié** reports the case of a premature infant born at the seventh month with pemphigoid bullæ on the legs and feet. The infant died of erysipelas a month afterwards. The mother suffered from secondary syphilis and was treated with proto-iodide pills, and afterwards with an intravenous injection of 0·30 grm. salvarsan, six days before the infant was born. Silver preparations showed the presence of numerous spirochætes in the infant's liver, a few in the supra-renals, but none in the other organs. Streptococci, on the other hand, were found in all organs. A few of the spirochætes were normal in shape, but most of them irregular. The author draws attention to three points in the case: (1) The action of salvarsan on the fœtus; (2) the action of salvarsan on the morphology of the spirochæte; (3) the addition of streptococcic septicæmia to a congenital infection with spirochætes. The injection of salvarsan may have determined the premature labour. Similar cases have been reported by Salmon, Sauvage and others when this drug was injected in the later months of pregnancy. In some cases injection of salvarsan appears to have caused death of the fœtus *in utero*, but in these the spirochæte was not found in the fœtal organs. However, according to Sauvage, 92 per cent. of the infants are born alive and usually without symptoms of syphilis. But this is only a false security, for symptoms of syphilis soon appear, and the infants are only "whitewashed" by maternal treatment. The author attributes the irregular and atypical form of most of the spirochætes to the action of salvarsan, not to modification of the soil by streptococci, because he has observed a case of a newly born syphilitic infant, which died of septicæmia (apparently due to *B. coli*), in which the spirochætes were normal. He states that salvarsan can pass the placenta (Bonnaire), and that it has been experimentally shown that it causes the spirochætes to become irregular, moniliform, and finally granular, the granules becoming the prey of the phagocytes (Levaditi, etc.) In conclusion, he considers that the case does not prove the failure of treatment of the fœtus through injection of the mother with salvarsan, because of the apparent effect on the spirochætes. It also shows the danger of secondary infection in cases of heredo-syphilis. C. F. Marshall.

The future of the premature and its connection with hereditary syphilis (*'Thèses de Paris,'* 1911–12, *No.* 308).—**Detré** has investigated 205 cases of premature birth and compared them with other infants born at term in the same environment. He first points out the high mortality, which is shown by the small number of premature births (4·9 per cent.) among the sum total of observations, in relation to the frequency of prematurity, which is stated to be about 30 per cent. As regards the causes of prematurity, hereditary syphilis takes a prominent place according to the evidence of the Wassermann reaction, in which the author apparently places implicit faith. He states that hereditary syphilis may only show itself by retarded growth (with a positive Wassermann reaction). Another important factor is tubercle, for the premature infants of tuberculous parents are particularly exposed to contagion. The author has observed severe rickets in such cases, especially when tubercle is combined with hereditary syphilis. As regards the future of the premature, he states that the proportion who compare favourably with healthy children born at term is only 8·6 per cent.

in the first, and 10·5 per cent. in the second infancy. Even after eliminating syphilis, tuberculosis and faulty alimentation, the premature appear to be deficient both in weight and height. Detré draws attention to the bearing of this on the premature induction of labour, and suggests that this practice may be detrimental to the individual and the race.

C. F. MARSHALL.

Reviews.

THE ELEMENTS OF CHILD PROTECTION. By SIGMUND ENGEL. Translated from the German by Dr. EDEN PAUL. Pp. 269. London: George Allen & Co., 1912. Price 15s. net.

THIS book is written from the standpoint of the socialist and the modern social worker. The arguments of the anti-socialists are clearly and fairly stated, and convincing proofs are given of the soundness of the socialist attitude as regards individual welfare and the health of the community.

The first chapters deal with the problems of population and the high birth-rate of the working classes. In this country the experience of most medical men seems to contradict the author's statement that only a small proportion of the proletariat suffers from venereal infection. The prevention of conception among wage-earners is strongly advocated, apparently on the ground that it is less immoral than the procreation of children who cannot possibly be fed, clothed and protected by their parents. In the chapter on infantile mortality the author forcibly proves that the unequal distribution of wealth is the main cause of this scourge, as socialist writers and speakers in this country have shown for many years. In the chapter on education the evils of corporal punishment are exaggerated. Professor Stanley Hall, among other authorities, considers castigation useful in the case of boys, especially for sexual offences. Probably flogging is more degrading to the teacher than to the scholar.

Among the arguments in favour of child protection and the prevention of infantile mortality, it is stated that the survival of the weakly in body often secures the survival of persons in whom the intellectual and moral faculties are highly developed. Again, a high death-rate among infants implies a high disease-rate among the survivors, who are likely to develop tuberculosis and be unfit for military service to a greater degree than those born in a year of low infantile mortality.

An interesting statement is made to the effect that if a high infantile mortality-rate exercised a selective influence, the death-rate among children over a year old among the proletariat should be less than that of upper-class children of the corresponding age, but this is nowhere the case.

It is advocated that marriage should only be allowed to those certified by a physician as physically and mentally sound, and it is considered that individual liberty would not be unjustifiably imperilled thereby, as many modern States and public bodies require celibacy in their employés. Dr. Engel thinks that illegitimacy and venereal disease would not be increased, but could be prevented by punitive measures and public enlightenment.

As regards the care of illegitimate children, it is recommended that a

strict inquiry should be made into the paternity, and that a proper maintenance allowance for the child, as well as the mother's expenses in childbed, should be exacted from the father. Every illegitimate child should be provided with an official guardian, a salaried servant of the poor law authority, who could enforce payment from the parent, and would be in a good position in after years to find satisfactory employment for the child at a suitable age.

The view that infant milk depôts do more harm than good by encouraging maternal laziness, and by promotion of artificial feeding, is qualified by urging the absolute necessity of medical supervision and their conversion into infant consultation centres. Factory crèches, or rooms in which the babies are kept under skilled superintendence, and to which the working mother resorts at suitable intervals to suckle her child, are spoken of with high commendation.

The question of the provision of free meals for children is settled by stating that it is the logical outcome of free education, and, therefore, food should be provided for all the children in attendance. Child labour is condemned on account of its low rate of remuneration, its monotonous character, and the evil effect it exercises on the process of manufacture. As long as child labour is obtainable, the manufacturer does not bother himself with the invention of labour-saving appliances.

A chapter is devoted to prostitution, wherein the author explains that the housing conditions of the proletariat, whereby all the physiological functions of both sexes are performed in one or two rooms, rather than destitution, predispose to this evil.

Enough has been said to show the scope of this book and its wide appeal to all social workers. Perhaps in future editions the value of this work to medical readers will be enhanced by full statistical justification of the author's statements and detailed reference to the papers of other workers.

In conclusion, we would congratulate the author, not only for having written an instructive and suggestive book, but also for his good fortune in having secured Dr. Eden Paul as his translator. C. R.

Hygiène de l'enfance. By Dr. E. Apert, Médecin de l'hôpital Andral. With 81 illustrations. Paris: J. B. Baillière et fils, 1913. Pp. 416. Price 6 fr. (paper cover).

Dr. Apert has written a semi-popular book which should be of great assistance to mothers and nurses—those of them, that is to say, who can read French. Many a young practitioner, too, will doubtless be able to gather useful hints from a perusal of its pages. The work deals almost entirely with the hygiene of the child, and no attempt is made to give a full account of the various disorders of infancy. The author, to use his own words, aims merely at showing how the common diseases of children can be avoided as far as possible, and when this is not possible, how their severity may be lessened and evil consequences averted.

Dr. Apert's advice throughout is sound and practical, and is illustrated by numerous reproductions of photographs, which serve to enhance the usefulness of the book. Part I deals shortly with the development and general physiology of the child at different ages, and more fully with the various methods of feeding. Further chapters are devoted to clothing, housing, and the care of the body generally, the last including an instructive section on the advent of puberty. Games and exercises and education are also

dealt with in a very practical and useful manner. Part II concerns the hygiene of the sick child and the sick-room. The methods of administering medicines, baths, packs, enemata, etc., are given in detail, together with several useful recipes for feeding. Then follow accounts of the common disorders and injuries of children with their initial treatment, and a chapter on the prophylaxis of the various infectious and contagious diseases. To limit the spread of infection in hospital the author favours Grancher's method of isolating every suspicious case in a wire frame-work. In the case of measles, every child who has not had the disease should be treated as a suspect for the first sixteen days. An elaborate but very necessary system of closet accommodation is also advocated. The treatment given for the various conditions is safe and adequate, and the necessity for calling in the physician, when the symptoms are urgent, is fully insisted upon.

The book is well got up, and the illustrations are good. There is only one misprint of any importance, which occurs in figures on page 308. At the end there is an efficient index, together with a table of contents.

T. R. W.

THE CONSERVATION OF THE CHILD: A MANUAL OF CLINICAL PSYCHOLOGY, PRESENTING THE EXAMINATION AND TREATMENT OF BACKWARD CHILDREN. By ARTHUR HOLMES, Ph.D., Assistant Director of the Psychological Clinic and Assistant Professor of Psychology, University of Pennsylvania. Philadelphia and London: J. B. Lippincott Company, 1912. Pp. 345. Price 4s. 6d. net.

THOSE responsible for the provision and control of education in this country are gradually awakening to the fact that children exist who, for various reasons, are so abnormal that they are unable fully to profit by the education supplied. A system of medical inspection has already been devised for the investigation of physical conditions. Doubtless, in due course, it will be recognised that the nature of a child's mental action is not unimportant, and then we may hope to see some attention paid to the subject from the psychological aspect. Things are very different in the United States. Sixteen years ago a psychological clinic was established in the University of Pennsylvania, having for its objects the scientific investigation of children unable to make satisfactory school progress and the giving of suitable advice as to particular methods of training such scholars. And this has been the forerunner of many similar clinics.

In this book the aim of the author is to give a practical description of the inauguration and operation of such a psychological clinic. Dr. Holmes not only does this very well, but he also gives information regarding classification and the characteristics of children suffering from the various forms of mental and moral deviation, which, besides being very interesting, cannot fail to be of use to those having to do with the education of such persons. The book is profusely illustrated, there is a very full account of all the chief tests and methods of examination in ordinary use, and those who wish to see how a psychological clinic is run or to obtain a knowledge of such methods of examination, together with much useful information regarding abnormal children, should certainly read this manual. We regard it as supplying a distinct want, and there is only one serious defect to which attention may be drawn in the hope that it will be remedied in a subsequent edition—that is, the absence of an index.

A. F. TREDGOLD.

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Original Articles.

HEREDITARY CONGENITAL WRY-NECK.

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So much has been written under the title "wry-neck" that one is apt to consider torticollis as an entity and not a symptom. The deformity is so noticeable and the condition so common that no layman, even, is ignorant of its existence. But in spite of its frequency and of the subject occupying a prominent place in all books on orthopædic surgery, researches into a copious literature do not yield a single instance where the condition has been reported on account of its heredity. Through the kindness of Dr. George A. Pirie I am enabled to record the following observations, in which left congenital wry-neck was transmitted through three generations.

The family in question consists of father, mother and four children, two of each sex. The children's maternal grandmother had a left congenital wry-neck, and though she has been long deceased, any doubt as to the trustworthiness of the assertion is set aside by a photograph (Fig. 1) of her, extracted from a group of fellow-workers, taken when she was about thirty years of age. The mother was an only child and is now aged 35 years. She is the subject of a left congenital wry-neck for which no treatment has ever been attempted. The head inclines to the left, the left ear

being approximated to the left shoulder and the face looks towards the right shoulder. The sterno-mastoid muscles are well-developed, though the left is more prominent than the right and the trapezii muscles are not abnormal. The degree of torticollis is slight. She can put her head perfectly straight and without any effort, but as soon as her attention to the position is relaxed, her head invariably inclines again towards the left (Fig.2). The father is a



FIG. 1.—Maternal grandmother.

normally developed man of the artisan class, perhaps slightly undersized, but healthy. The eldest child is a daughter, aged 10 years, strong, well developed, and without peculiarity. The second child is also a daughter, aged 7 years, but she has a left congenital wry-neck (Fig. 3), more marked and obvious than her mother's. It is not contrary to one's experience of relatives' power of observation to learn that the wry-neck in this child was not noticed until she was six months old. She had had no illnesses previous to that time, and has, indeed, had no illness of importance since. Even after the

deformity had been admitted its extent was not appreciated until quite recently, when, the child having fallen and cut her head, her hair was shorn to facilitate dressing; the deformity naturally became much more noticeable. There is marked contraction and prominence of the left sterno-mastoid muscle; the left suboccipital area seems very empty while the right seems fuller than normal, and this fulness appears to be due in great part to the cervical spine, which presents



Fig. 2.—Mother.

a dextro-convex scoliosis. Otherwise the child is of good physical and of normal mental development and is getting on well at school.

The third child is a boy, aged 5 years, strong, well and healthy, and free from defect. The youngest child (Fig. 4) is two years of age. He has a very marked left congenital wry-neck presenting conditions exactly similar to those of his sister in appearance and in every detail, however trifling. The mother and the two affected children were radiographed by Dr. Pirie but no abnormality was found in the bones.

The ætiology of torticollis is somewhat complicated, because though the wry-neck is the most obvious symptom, it may be due to a variety of causes. For the due consideration of torticollis it is customary to divide it into clonic or spasmodic, and tonic or permanent contracture. It appears that the former may develop into the



Fig. 3.—Second child.

latter, and that a long continuance of spasmodic torticollis may result in permanent contracture of the affected muscles. There is a danger, however, of using the term too loosely, for the muscle at fault in torticollis is the sterno-mastoid, and any other muscles which undergo contracture are apparently secondarily involved just as the bones or fasciæ may be. Little has pointed out that muscles relying for their nerve-supply on one nerve are much more liable to be affected

by clonic or tonic spasm than are muscles which derive their nerve-supply from several sources, and these conditions are pre-eminent in the sterno-mastoid muscle.

Torticollis may be congenital or acquired. I have elsewhere recorded a case where congenital scoliosis was caused by the intervention of



Fig. 4.—Youngest child.

an extra half vertebra in the dorsal region of the spine, and in this a secondary cervical compensatory scoliosis existed. I have in my possession a macerated spinal column of a young child which presents a congenital scoliosis of the cervical spine due to an abnormal development of the cervical vertebræ. This child during life presented an appearance of left congenital wry-neck, but the many other congenital defects of which it was the subject overshadowed the

torticollis, which in him was but a minor deformity. Still, such cases go to prove that a congenital abnormality of the cervical spine may be the cause of congenital wry-neck. A notable example of an acquired torticollis not due to muscular causes is reported by Bouvier, where a lad, aged 18 years, struck on the neck by a plank, at once developed permanent left wry-neck. He died at sixty years of age, and it was then found that the shortening of the left sterno-mastoid was secondary to fracture of the transverse processes of several of the cervical vertebræ with curvature of the cervical spine and fusion of the bodies. Petersen advances this case as evidence that shortening of the muscle with fibrous degeneration is not evidence of previous injury to the sterno-mastoid. That the bones do become abnormal in shape if persistent torticollis be congenital or acquired in early life is only what would be expected, but it is not correct to say that this is the cause, though one might endorse Jackson Clarke's statement that "the shape of the bones is so markedly altered that it alone accounts for the persistence of the deformity."

At one time much discussion took place on the co-existence or pre-existence of congenital tumour of the sterno-mastoid in torticollis, and I think all will agree with Tubby that the evidence of injury to the sterno-mastoid as a cause of torticollis is, to say the least of it, conflicting. Tubby also points out that a congenital tumour of the sterno-mastoid may be found after a normal labour, and that the absence of discoloration is one reason to discount the existence of an injury, and he states definitely that congenital tumour of the sterno-mastoid is certainly not always a hæmatoma.

I have no personal knowledge of a case of hæmatoma of the sterno-mastoid being followed by torticollis, but my experience is a small one, and I have only notes of four cases. Nor do I have a single instance out of thirty cases of congenital wry-neck where there was any evidence that a hæmatoma of the sterno-mastoid had at any time been present. Kirmisson believes in the traumatic origin in "the immense majority," but his translator points out that Lever, of Boston, considers the condition to be a contraction closely resembling a condition found in Volkmann's ischæmic contracture. Indeed, Petersen goes so far as to hold that congenital hæmatoma of the sterno-mastoid is the result of injury at birth to a congenitally contracted muscle. It certainly goes far to accentuate the value of Petersen's theory that contraction of muscle in adults does not follow a rupture, traumatism (without loss of substance from septic infection), or a peri- or intra-muscular hæmatoma.

So astute an observer as Dr. John Thomson, however, is con-

vinced that there is a causal relationship between torticollis and congenital hæmatoma, though he has not published any notes of his observations, and so definite a statement by such an authority is sufficient reason to look for evidence that it occurs. D'Arcy Power did good service in controverting Stromeyer's too sweeping statement that congenital wry-neck was almost without exception due to injury done to the sterno-mastoid muscle at birth, and Clutton, in recording his experience of eighteen cases of mastoid tumour, notes that in one of these to his own observation wry-neck followed, and in two others "wry-neck is stated to have been subsequently observed."

Congenital hæmatoma is more common on the right side than on the left, but may occur in either or both sterno-mastoid muscles, and it is more common in male than in female infants. This in a way corresponds with torticollis, for torticollis is more common in males than in females, and more common on the right side than on the left. It is a coincidence worth investigating, but it is no proof of sequence.

That must have been a curious experience of Golding Bird's that "congenital wry-neck never affects the left side." It is not borne out by the experience of others, and certainly not by mine. In twenty-four consecutive cases of congenital torticollis which I observed, eight were of the left and fifteen were of the right side, while in one case both muscles were affected, the right more than the left, however, and this determined the side of the deformity. Incidence was equal in the sexes. Golding Bird's statement that "the pre-existing circumstances of which the deformity of congenital wry-neck is the immediate sequence are similar to, if not pathologically identical with, those that bring about an attack of infantile paralysis and its later complications," cannot have a wide application, and competent criticism is, that if this analogy were even occasional, wry-neck would not be the congenital condition it usually is. This leads naturally to the consideration of the nervous origin of the deformity.

Most will probably approve Little's statement that "the greater number of cases of congenital wry-neck clearly originate from causes acting through the nervous system."

Horsley points out that the affection of the nerve-fibres may occur in the cortex cerebri, the corona radiata, the cerebellum, or the spinal centres of origin of the spinal accessory and the first four cervical nerves. The excitation may be direct or indirect by irritation of the afferent nerves. He avers that excitation of the cortex

results in a combination of tonic and clonic spasm, while excitation of the lower centres (the cerebellum and spinal cord) must generally produce tonic contraction. The muscles involved in torticollis are supplied by the spinal accessory and those on the posterior aspect of the spine (the complexus, splenius, rectus capitis posticus, trachelo-mastoid, semi-spinalis, etc.) are supplied by the posterior primary branches of the first five cervical nerves. Direct excitation may be caused by inflammatory processes, new growths, and poisons circulating in the blood. Torticollis has been observed by Nobécourt and Fenestre to occur in connection with enteric fever, and John Thomson states — "occasional severe wry-neck and other forms of muscular rheumatism occur in lithæmia." There seems no reason why it should not occasionally be brought about in the same manner as a poliomyelitis. An example of indirect production is seen in herpes zoster, after operation for removal of adenoids by any inflammatory disturbance in the neck or by enlarged cervical glands (Ferrari).

Hutchinson records a case in which torticollis came on, in a girl of eleven, after very violent convulsions at the age of six years. However much these pathological conditions may be offered as explanations of cases of wry-neck, whether spasmodic or tonic, acquired or congenital, they do not in any way explain the possibility of a familial tendency. I do not know of any case in literature where it has been found to exist through several generations, but I once operated on a woman of twenty-eight the subject of left congenital torticollis, in which a child in a sister's family had right wry-neck. Such an isolated example as this may be interesting, but it is useless, for it is more than likely a coincidence. In the above family, however, the presence of wry-neck of the same side through three generations puts coincidence out of the question. Though difficult of demonstration, there is a common concurrence that certain cases of club-feet and other congenital deformities are due to mal-position *in utero*. That such an explanation may be feasible in some cases of congenital wry-neck is obvious, and Tubby, in writing of congenital wry-neck, says that a likely cause seems to be "shortening of the muscle following inclination of the fœtal head" as it lies *in utero*. This, Tubby says, is supported by two facts—first, that congenital torticollis is usually on the right side; and second, that in 75 per cent. of births the fœtal head is in the first position, which is associated with flexion of the head towards the right shoulder. It seems more incredible either that the muscles of one side or that the nerves going to these muscles should be the

subject of pathological changes in members of a family throughout three generations, than that there should be a tendency to some abnormal position during the growth of the fœtus *in utero*. Busch (quoted by Petersen) writes : " In a slightly inclined pelvis the head sinks several months before the time into the small pelvis and remains here fast as caput ponderosum. The uterus lies with the fœtus in the last months anteflexed ; there is, therefore, between the trunk and the head a bending forwards. In the first head presentation it is, therefore, the right side of the neck which is shortened."

It is obvious that if there be anything in this explanation, the hereditary transmission of some slight pelvic defect or peculiarity might influence through generations the presentation or position *in utero* of the fœtus. The inference would also be justifiable that the deformity would be transmitted only through the females, and the surprising thing would be, not that wry-neck should be transmitted at all, but that it should be transmitted so seldom. Petersen himself favours amniotic bands as a frequent cause of intra-uterine wry-neck. Be that as it may, it is difficult to dissociate congenital familial wry-neck and some maternal source of causation.

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TWO CASES OF ATELEIOSIS.

ATELEIOSIS IN A WOMAN AGED 20 YEARS, WITH A SLIGHT CONGENITAL MALFORMATION OF THE HANDS AND FEET; ALSO A FURTHER ACCOUNT OF A CASE OF ATELEIOSIS PREVIOUSLY DESCRIBED.

By F. Parkes Weber, M.D., F.R.C.P.,

Senior Physician to the German Hospital, London.

The first patient, E. B—,* of Polish-Jewish descent, born in June, 1892, is small and infantile in development. Height, 135 cm.; weight, 34 kilogrammes. According to the mother's account she was born at full term without instrumental aid. She learned to talk and walk like other children. She was always small and delicate, but has hardly increased in height or general development since the age of 12 years. She has never menstruated. She has been subject to psoriasis since the age of 10, and has chronic middle-ear disease on the right side, which apparently followed scarlet fever at 5 years of age. She has likewise had measles, mumps, several attacks of tonsillitis, and (at 7 years of age) severe pneumonia. For a considerable time between the scarlet fever at 5 years of age and the pneumonia at 7 years of age, she suffered from more or less baldness of the scalp. In 1907 she was for a short time an in-patient under my care for an attack of diarrhœa with dysentery-like symptoms. In 1910 she had swelling of the right knee for two or three weeks without fever. Two years ago she was treated at a hospital for lateral curvature of the spine. She is the eldest child of healthy parents. Of her five brothers and sisters four are living, and one (the fifth of the family) died as a baby of convulsions and pneumonia. The mother has had no miscarriages or abortions. There seems to have been no dwarfism, infantilism, or congenital malformation of hands and feet in any other members of the patient's family.

Present condition.—There is a slight congenital malformation of the hands and feet, consisting in decided relative shortness of the fourth finger (ring-finger) of each hand, and the fourth toe of each foot. Röntgen-ray examination of the hands (*v.* Fig. 2) and feet shows this deformity to be due to abnormal shortness of the fourth metacarpal and fourth metatarsal bones respectively. The patient has a fresh complexion and, as already stated, suffers from chronic psoriasis and chronic right middle-ear disease. The lower jaw

* This case was shown at the Clinical Section of the Royal Society of Medicine on April the 11th, 1913.

is relatively somewhat small and the chin receding. The teeth are fairly well developed. The thyroid gland seems very small. The breasts are quite infantile, and there is complete absence of pubic and axillary hair. A gynæcological examination made under general anæsthesia by my colleague Dr. E. Michels, at the desire of the patient and her mother, showed that, although a small intravaginal portion of the cervix uteri was present, the body of the uterus seemed almost absent, and no ovaries could be felt. Nothing abnormal can be detected by ordinary or X-ray examination of the thoracic



FIG. 1.—Photograph of the patient, E. B— (on the left), showing abnormal shortness of the fourth finger of each hand and fourth toe of each foot. On the right is a normal woman of about the patient's age, for comparison in regard to size.

viscera, or by palpation of the abdomen. The liver and spleen are not enlarged. The pulse is rather frequent (104 to 116 per minute), and the brachial systolic blood-pressure rather low (100 mm. Hg.). Blood examination (April the 3rd, 1913): Red cells, 4,200,000 to the cubic millimetre of blood; white cells, 8000; hæmoglobin, 65 per cent. The urine (quantity not excessive) is free from albumin and sugar, but on one occasion recently was found temporarily to contain 0·33 per cent. of sugar. In a case of so-called "mitral infantilism," I recently observed similar occurrence of temporary glycosuria. The condition of the bowels seems to be normal.

Ophthalmoscopic and perimeter examinations (Dr. C. Markus) show nothing abnormal ; the visual acuity is $\frac{6}{9}$ for each eye. The pupils react naturally to light and accommodation. The patient has, as already stated, old middle-ear disease, and she is slightly deaf. The knee-jerks are excessive (as in some neurasthenic subjects) ; Achilles reflexes active ; no ankle clonus. In proportion to the bodily development the patient's mental development seems to be fairly



Fig. 2.—Skiagram of the hands of E. B—, aged 20 years, showing abnormal shortness of the fourth metacarpal bones and abnormal persistence of epiphysial cartilages.

good, and she is able to earn a little money at fur-machining. Dr. Reginald Langdon-Down has kindly examined the patient's mental development by the Binet tests (April, 1913), and he reports as follows :

" This patient suffers from the drawback of a slight defect of hearing, which probably affected her response to some of the tests to a certain degree, for which allowance has been made. The examination shows that she has an intellectual development equivalent to

that reached by the average child aged about 13 or 14. It is admitted that the differentiation of natural capacity towards the upper limit of the scale is more difficult, even with the revised Binet's tests, or their modification by Goddard, and these are at present in a tentative stage and do not attempt a closer approximation over 12 than a test for age 15, and one for ages more than 15. This case seems to fall just short of the 15 standard. It is obvious that social status and environment may exercise considerable influence in these higher levels, and that standardisation becomes more difficult owing to increasing complexity of development and individual divergencies."

In regard to the osseous system, there is slight spinal scoliosis. Skiagrams (Dr. N. S. Finzi) show abnormal persistence of epiphysial cartilages, and the congenital abnormality of the metacarpal and metatarsal bones already referred to. In those taken of the hands (Fig. 2) most of the epiphyses are seen to be bordered by a very deep shadow, as if by sclerosed bone. Skiagrams of the region of the sella turcica at the base of the skull seem to show a rather small pituitary fossa.

I think the present case should be included amongst the "ateleiosis" group according to the descriptions of Hastings Gilford,* the originator of the term. Both this case and the one I described previously in the British Journal of Children's Diseases† do not apparently show any special anomaly of the sella turcica region at the base of the skull, unless the pituitary fossa is abnormally small in both cases.‡

The patient (F. B. H—), whose case I described three years ago, and to whom I have just alluded, is now aged 45 years. He is an infantile dwarf, of English parentage, whose height without boots or shoes is 120·5 cm. (47½ in.), and who at present weighs 26·5 kilogrammes ($58\frac{3}{10}$ lb.) without clothes. He has heard his parents say that he was much like other children up to the age of 9 years, but that his growth and development then ceased. He is said to have had "water on the brain" as a baby, and as a child to have had two or three falls on the head. He cannot himself remember having had any serious illness. There is no history of chronic diarrhœa or intestinal steatorrhœa. His head is rather large for the diminutive

* 'Med.-Chir. Trans.,' London, 1902, lxxxv, p. 305. See also Gilford's account of the disease in his book on 'The Disorders of Post-Natal Growth and Development,' London, Adlard and Son, 1911.

† 1910, vol. vii, p. 359.

‡ On the form of the skull in "Ateleiosis" and "Progeria," see Prof. A. Keith, 'Lancet,' 1913, i, p. 305.

size of his body. The shape of his trunk, the undeveloped state of his sexual organs, the appearance of his neck (owing to the want of projection of the "pomum Adami") and the high pitch of his voice are those of a child, but his expression, the wrinkles on his face, his attitude, his manner of speaking and his general behaviour are somewhat more those of an adult. His mental development is childish but otherwise not abnormal. He cannot read or write, but, apparently "on account of weakness," the doctor would not let him go to



FIG. 3.—Photograph (1913) of the patient F. B. H—, (on the right), together with a boy, aged 8¾ years, of normal size and development.

school as a child. He earns a little money by light work in a glass factory. Dr. Reginald Langdon-Down has kindly examined the patient's mental development by the Binet tests (April, 1913), and he reports as follows:

"This patient is interesting, as he was deliberately deprived of school instruction on medical advice, and, on the other hand, owing to his mature years, has long been subject to the influences of every-day life in town. The result of this environment has been to produce a superficial sharpness in one or two directions, which might readily mislead one in judging of his intellectual development. In

grading him the modified scale of the Binet tests has been used, which avoids as far as possible tests which depend upon the results of instruction. The examination shows that he has reached an intellectual development such as is reached by the average child aged 8."

His father and mother both were born in 1832, and lived to about the ages of 56 and 50 respectively. There is no history of any other dwarfism or infantilism in the family.



Fig. 4.—Skiagram (1913) of the hands of F. B. H—, aged 45, showing persistence of some of the epiphysial cartilages, which are bordered by deep shadows apparently due to sclerosed bone.

On the whole there has been little change since I examined him in 1910, and as yet the hair of his scalp shows no greyness, nor is his head at all bald. There is no hair on his face or pubes or in his axillæ. The penis is exceeding small. No testicle can be felt on the right side; the left testicle, of about the size of a small cherry, is incompletely descended. Nothing abnormal can be discovered in the heart, lungs, or blood-vessels, or in the abdomen (by palpation), or by examination of the urine. Pulse, 100 per minute. Brachial

systolic blood-pressure, 145 mm. Hg. Blood examination (Dr. Bauch, April, 1913): Hæmoglobin, 80 per cent.; red cells, 5,040,000, and white cells, 15,900 to the cubic millimetre of blood. The abdomen is prominent so as to form a regular "alderman's paunch," and the development of the subcutaneous fat about the back of the neck and the front of the thorax is of somewhat eunuchoid type. He apparently has never had penile erections or sexual desire, but has had nocturnal emissions occasionally. The texture of the skin, the facial complexion, the extreme fineness of the hairs of the scalp and the small size of his thyroid gland all suggest that there may be an element of hypothyroidism combined with the ateleiosis, but these features may be merely a part of the general infantilism.

Examination of the eyes (Dr. R. Gruber, April, 1913): The pupillary reactions are normal. In each eye there is a little horizontal nystagmus on exact fixation of objects. In each eye there is a central corneal macula (from old inflammation), with a little pigment on the anterior capsule of the lens. The optic discs are both normal. In the left eye, one and a half disc-diameters above the optic disc, is a well-defined circular area (resulting from old retino-choroiditis), a little larger than the optic disc, over which the retinal pigment has disappeared (with the exception of some small irregular specks), so that the choroidal vessels are clearly visible. At the inner upper peripheral portion of this area there is a small spot of shining silvery-white appearance, lying around a retinal artery, which it partly covers. The visual acuity for the right eye is $\frac{6}{36}$, and for the left eye about $\frac{6}{24}$. With the perimeter the fields of vision cannot be exactly traced out, but there is no temporal hemianopsia. There is no colour-blindness. The atrophic retino-choroidal patch in the left eye is similar in appearance to patches supposed to be seen after recovery from miliary tubercles of the choroid. The impairment of vision and the nystagmus are probably due to the old corneal maculæ. Examination of the ears (Mr. G. J. Jenkins) shows nothing abnormal, excepting that the external auditory meatus is of the infantile type. It may be here mentioned that the patient's knee-jerks are very difficult to obtain, but are not altogether absent; there is no ankle clonus; the plantar reflexes are of the normal flexor type.

In regard to the condition of the skeleton, there is slight spinal scoliosis. Skiagrams (Dr. N. S. Finzi) of the extremities show persistence of some of the epiphysial cartilages, but the amount of union of the epiphyses with the diaphyses varies considerably in different bones. Dr. Finzi points out that, in the skiagrams of the

hands, those epiphyses which are not yet joined to the diaphyses, and some of the diaphyses themselves, are seen to be bordered by a very deep shadow, as if they were bordered by sclerosed bone. The epiphysis of the terminal phalanx of each little finger is represented by a single very black line, as if it entirely consisted of very much sclerosed bone. In the same skiagrams the carpal bones seem to be relatively more developed than the bones of the metacarpus and fingers. When I previously showed the case I thought that skiagrams of the skull showed nothing special. Fresh skiagrams of the sella turcica region recently taken by Dr. Finzi seem to show that the posterior clinoid process is very thick, but slight variations in the position of the head may make considerable differences in the skiagraphic appearances at the base of the skull. The pituitary fossa is, however, almost certainly rather small.

TWO SUCCESSFUL CASES OF OPERATION FOR STRANGULATED INGUINAL HERNIA IN FEMALE INFANTS OF THE AGES OF 22 AND 17 DAYS.*

By R. H. Anglin Whitelocke, F.R.C.S.,
Surgeon to the Radcliffe Infirmary, Oxford.

In September, 1912, a female infant, aged 22 days, was admitted under my care into the Radcliffe Infirmary. The mother stated that the baby was entirely breast-fed, and that for the last five days nothing had passed through her bowels. The family attendant, without seeing the child, advised the mother to give it castor oil; this, however, was invariably vomited as soon as swallowed. The infant had vomited for three days, had moaned almost continuously as if in great pain, and had slept hardly at all during the whole of this time. When examined, a firm, tense swelling was found in the right inguinal region the size of a small hen's egg. Both legs were tightly drawn up, and the child was blanched and obviously very ill. A few drops of chloroform were administered, and after the necessary surgical preparations had been made herniotomy was performed. In the hernial sac were found the right ovary and Fallopian tube together with a small loop of the small intestine. This last was severely strangulated, and purple-black but shiny. The circulation was gradually restored by the aid of a warm saline wash and the colour soon improved.

The contents of the sac were returned to the abdomen, the neck

* A paper read before the Section for the Study of Disease in Children of the Royal Society of Medicine on April the 25th, 1913.

of the sac ligatured off, while the sac itself was excised and the operation rapidly completed. Recovery was complete and quick, and the babe is is to-day well-grown, fat, and shows no after-effects from the operation.

Case 2.—On March the 6th of this year I was called into the country to see the female infant of a lady who had been confined only seventeen days previously and who was still in child-bed. The family physician informed me that the child had been screaming much since birth, that it had vomited all its food for nearly three days, that its bowels had not moved even with the use of glycerine suppositories for four days, and that it refused the breast. In the right groin was a swelling, tense, tender, and tympanitic, the size of a small tangerine orange. I decided to operate at once, realising that we had to deal with a strangulated inguinal hernia in a very young and feeble subject. After the necessary preparations had been hurriedly made, and with the help of chloroform, I cut down upon and opened the sac. The contents consisted of a swollen and very œdematous cæcum with a long discoloured appendix vermiformis. The appendix was exceptionally large I thought for such a young infant, and owing to the presence of a very short mesentery it had become doubled upon itself so as to produce a condition of almost complete strangulation. This organ was quickly removed, and after considerable difficulty at the internal ring I succeeded in returning the swollen cæcum. The internal abdominal ring admitted two fingers. The sac was ligatured, and the wound closed and dressed with collodion. In a very short time after the little one took the breast, passed water, and fell asleep. The bowels were moved naturally a few hours later, and the wound healed without any trouble. I have recently heard that she is now thriving and is in all respects well.

Several points of interest to the surgeon may be gathered from the experience of these cases; and amongst them may be narrated:

(1) The early stages at which strangulation occurred, and with apparently no definite cause.

(2) The unusual nature of the hernial contents: in the one case an ovary and tube as well as small intestine; in the other, an unduly mobile cæcum with large appendix measuring 3½ in.

(3) The successful issue in each case even after the obstruction and symptoms of strangulation had lasted for over three days.

(4) The absence of post-operative shock after a general anæsthetic and herniotomy, and in the younger infant after appendicectomy in addition.

Herniotomy in such young infants must be exceptional, and a successful appendicectomy at the age of seventeen days is certainly so.

REFRACTION WORK IN SCHOOL-CHILDREN.

By John Allan, M.D., D.P.H.

Within the last few years, and since the Act for the medical inspection of school-children has come into force, the numbers of refractions done in children of school age have greatly increased. Refraction work has come to be quite an important branch of ophthalmic practice, and those who undertake it cannot justly claim to perform it properly without having had adequate training. The technique of refraction is not easily mastered, and before attaining proficiency there are many difficulties to overcome.

In carrying out the investigation of the refraction of a child of school age there is a certain routine to be followed. The examination must be carried out systematically, and it cannot be too strongly urged that refraction work performed in an unsystematic and haphazard manner is almost worthless, and the results obtained will be disappointing. There are many divergent views held regarding the best means of doing this work, but I do not intend to discuss the opinions expressed by different ophthalmic surgeons. I shall content myself by briefly giving the routine I have come to adopt after some experience in this matter. I do not for a moment claim that it is the best method, but I do say that in my experience it answers well.

When a child is brought with the complaint of defective vision the first thing to do is to test the distant vision by means of the Snellen test-type, each eye being tested separately. The information thus obtained may be of the utmost value. In the adult one would next proceed to find out if vision is improved by various lenses, but in the case of children this is merely waste of time. The only satisfactory way of diagnosing and estimating the refraction of the child is to have the eyes under the influence of a cycloplegic. I am well aware that many ophthalmologists think this is quite unnecessary, but I cannot agree with them. It is admitted that the refraction in many children can be obtained without paralysing the ciliary muscle, but it is less easy to estimate the error of refraction when the pupil is not dilated. The best cycloplegic to employ is atropine, which may be prescribed in the form of drops or an ointment. My practice has been to order 1 per cent. atropine ointment to be put into the eyes twice daily for a week (three days will do if the ointment is properly applied). The lower lid is everted, and a minute portion of ointment is placed in the conjunctival *cul-de-sac*.

It is advisable to warn the parents of the mydriatic effect of the atropine, otherwise it may be prematurely discontinued. The dilatation of the pupils may alarm some parents, and, again, the dimness of vision which generally supervenes after the instillation of atropine may lead those in charge to stop using the atropine. This can, as a rule, be avoided if one tells the parents of the effects expected when atropine is employed. I have sometimes been asked if there is no danger of poisoning by atropine, but the danger of toxic symptoms arising is very slight, and in several thousand cases I have only met with symptoms of atropine poisoning in two. Curiously enough, in both these cases atropine drops had been used, and in one of them atropine in the form of ointment was ordered some eighteen months later without untoward effects. When atropine drops are instilled it is not unlikely that some of the solution runs down the lachrymal duct and trickles down the back of the throat, and absorption takes place. In a few cases, also, "atropine irritation," which is evidenced by erythema, swelling of the lids, etc., occurs, but this is likewise of exceptional occurrence.

At the end of three days or a week the child is brought with the pupils well dilated, and retinoscopy can now be carried out with the greatest of ease in the majority of cases. During the estimation of the refraction in this way, it is wise to get into the habit of taking a "bird's-eye view" of the fundus in each eye. Many unexpected lesions are often discovered in this way, and the conditions found may account for failure to get the proper response to appropriate lenses. As soon as the retinoscopy is completed the child may be tested for glasses, but, in my opinion, it is far better to wait until the mydriatic effect has passed off (about two weeks) before trying the child with lenses. One can then more satisfactorily arrive at the correcting lenses which are most suitable for the child. Very often theory is not carried out in practice, and it is not uncommon for the child to fail to accept the full correction according to the retinoscopy result. Another point is that when the effect of the atropine has passed off, the child can be tested also for near vision —a very important factor in some cases.

When suitable glasses have been obtained, these should be prescribed for constant wear in the majority of cases. The child ought to be brought regularly every six months to be tested to see if the glasses remain suitable. If they are in any way unsatisfactory, the routine just described should be repeated, and different lenses ordered according to the results obtained. There is no doubt that much good could be done as regards conservation of vision by the careful

examination and treatment of defective eyesight in childhood, and it is to be earnestly hoped that systematic inspection will do much in the future.

The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Provincial Meeting, at the General Hospital, Northampton, Saturday, June the 21st, 1913.

Mr. A. H. Tubby, *President, in the Chair.*

? Hypopituitarism.—Dr. R. A. Milligan.—Man, aged 23 years. Admitted for fracture of the right femur. He had had pain in the right thigh for two or three weeks, and about a week before admission his leg gave way when walking; no history of injury. Family history negative. He stopped growing when aged about 12 years. He left school (Standard III) at the age of 11 years, owing to defective vision; he had since helped his father on a farm. During the last two or three years he had been subject to attacks of headache and vomiting. Patient has the appearance of a boy aged about 12 years he has a weak child-like voice; his genital organs are infantile. He is quiet and seems drowsy: his appetite is poor and he lives chiefly on liquids. Since admission he has had attacks of headache and vomiting; his pulse is slow, sometimes as little as 56; blood-pressure 90 mm. Hg. Dr. Harries Jones reports that he has retinitis pigmentosa. Visual fields have not been taken yet. X rays shows a transverse fracture of femur just below the neck; no cause for it is apparent. Skiagram of the sella turcica shows nothing abnormal. The patient died fourteen days ago; no autopsy was permitted.

Congenital Family Jaundice.—Dr. P. S. Hichens.—Mother and two sons all suffering from familial jaundice. Mother has had ten children and five miscarriages. She has been anæmic all her life and became jaundiced during her first pregnancy; she has been jaundiced many times since. Children: (1) Female, 1892. Born yellow; died after five days. (2) Female, 1893. Born yellow; died after ten days. (3) Male, 1894. Born yellow; has frequent slight attacks of jaundice, otherwise in fair health. (4) Male, 1896. Slightly jaundiced. (5) Female, 1898. In good health. (6) Male, 1901. In good health. (7) Female, 1904. In good health. (8) Male, 1906. Born yellow and has occasional attacks of jaundice. (9) Female, 1907. In good health. (10) Male, 1910. In good health.

The mother and Nos. 8 and 10 are shown. Mother: Liver not enlarged; spleen extends below costal margin. Heart: Systolic murmer with its maximum at third left interspace and conducted upwards and to the apex. Son (8): Liver not enlarged; spleen just palpable. Heart: Systolic bruit with maximum intensity at third left interspace and extending up and down. Son (10): Liver not enlarged; spleen enlarged with a hard sharp border.

Heart: A loud blowing systolic murmur is heard over the whole præcordial area and through to the back.

The other son (not shown) presented much the same murmur.

? Cretinism.—Dr. Hichens.—Girl, aged 2 years and 2 months. Breast-fed and weaned at the age of ten months; then fed on wheat flour, Robinson's patent groats, etc. At the age of fifteen months began to swell all over and hair began to grow copiously all over her body; her gums became spongy and four of her milk teeth were shed; she became extremely irritable and passionate: some pigmentation was noticed over the lower part of the abdomen and peeling of the hands and feet. There appeared to be much fat in the limbs or else a myxœdematous condition; no cushions of fat above the clavicles. Slight rickety changes in the limbs, but no pain in them. The child has been treated with thyroid extract 5 gr. daily and has made a good recovery.

? Henoch's Purpura.—Dr. W. M. Robson.—Boy, aged 10 years. On May the 8th, 1913, trod on a rusty nail and developed a poisoned foot. On May the 11th red spots appeared on both legs below the knees. On May the 18th he began to vomit and had griping pains in the abdomen. Admitted on May the 28th with vague pains in his knees, elbows and wrists temperature 99° to 100° F. On the limbs, especially about the knees and wrists, a purpuric rash was present. The heart is normal and the joints were not swollen or red, but tender on pressure. The urine contained albumin and blood. Microscopically: Pus-cells, red blood-discs, but no casts. On June the 8th the rash became more profuse, there was more blood in the urine and the joint pains again more marked.

No history of previous hæmorrhages.

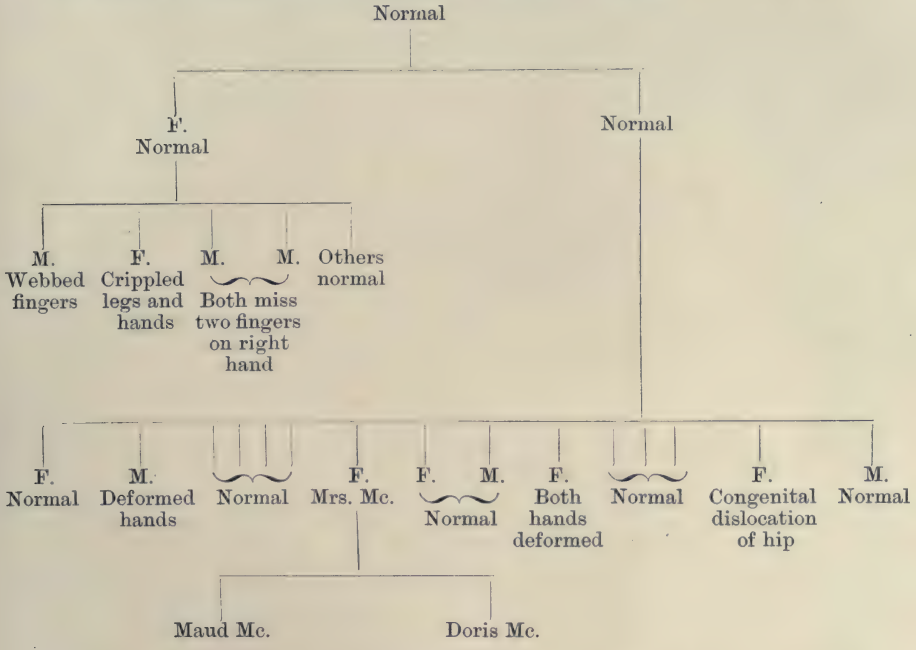
Pemphigus.—Dr. Robson.—Boy, aged 4½ years, began to have blisters on him three years ago; they were never profuse. In July, 1912, a more profuse eruption began on the legs and gradually spread to the abdomen, arms, face and neck, and lastly, to the back. The groins and axillæ have been more affected than the rest of the body. Other children of the same family normal. Admitted May the 14th, 1913. Some of the bullæ were small and contained clear fluid, others were opaque. On May the 18th, some of the bullæ became septic and the temperature rose to 101° to 102° F. A culture taken from an apparently non-pustular blister gave a pure culture of *Staphylococcus aureus*. Treatment has been increasing doses of liq. arsenicalis, boracic baths and injections of *Staphylococcus aureus*.

Polyarthritis due to Congenital Syphilis.—Dr. Robson and Mr. Odgers.—Girl, aged 18 years. At the age of eight years she began to have rheumatism which has affected her hands and feet and knee-joints at different times. The joints of both hands and wrists are swollen and deformed; she has marked nerve-deafness, the signs of old interstitial keratitis and Hutchinson's teeth.

Lymphangioma of Tongue.—Mr. N. B. Odgers.—Man, aged 29 years. Since birth he has had a "nævus" of the left side of the tongue and this has steadily got bigger: lately it has been more painful.

Commencing Leontiasis Ossea.—Mr. Odgers.—Youth, aged 18 years. The anterior nares are almost completely occluded by hyperostoses of the nasal processes of the superior maxillæ; he is evidently a congenital syphilitic.

Congenital Absence of Tibiæ and other Deformities.—Dr. W. M. Robson and Mr. N. B. Odgers.—Mother and two children with deficient limbs. Mrs. M— has some fingers congenitally absent. Maud M— has the middle finger of the left hand missing; further there is congenital absence of both tibiæ and some toes. Doris M— has one finger and a toe missing. This family tree shows several members similarly affected.



Fibro-sarcoma of Thigh.—Mr. Odgers.—Boy, aged 14 years, has since birth had a tumour in the right thigh; for six months it has been getting bigger. He had on the inner aspect of the back of the thigh a solid tumour which appeared encapsuled. On operation it was found to be growing from the sheath of the semi-membranosus muscle, which it infiltrated; this latter was removed in its whole length with the tumour. The tumour appears degenerated in many places; in its upper pole is well-formed bone. Microscopically it appears to be a fibro-sarcoma.

? Phleboliths in Forearm.—Mr. F. A. Wagstaffe, showed a woman, aged 24 years, who had fractured her left forearm at the age of eight years. For the last three to four years she has had attacks of pain at the seat of fracture lasting for two to three days. Six weeks ago she came with a condition resembling a cellulitis of the forearm with exquisite tenderness at the seat of the old fracture and at various spots below it; in a week this subsided. X rays show dotted about the forearm a dozen or more discrete shadows, some of them the size of split-peas, the majority being smaller.

Ectopia Vesicæ.—Dr. D. Stone.—Boy, aged $2\frac{3}{4}$ years. He is an apparently healthy child; he has complete epispadias, while the posterior wall of the bladder forms a deep red bulging mass about the size of a crown

from which urine slowly oozes. On the rudimentary penis is a mark resembling the urethral opening; the testes are both present in the inguinal canals.

Abdominal Hydatids.—Dr. D. G. Greenfield.—Boy, aged 10 years. When he was aged 3 years his mother noticed a lump on the right side of his abdomen; a year later there was a large swelling extending downwards below the right costal margin. Between 1909 and 1911 three hydatid cysts were drained in Guy's Hospital by Sir Alfred Fripp. A year ago he had slight hæmoptysis on two occasions; his liver is still considerably enlarged.

Congenital Eye Conditions.—Dr. E. H. Harries-Jones showed cases of coloboma of iris, persistent pupillary membrane, and persistent hyaloid artery.

? Gumma in Left Crus Cerebri.—Dr. D. Stone.—Girl, aged 6 years 10 months, born healthy, grew to average height and weight and well till last August. She then contracted whooping-cough, which was followed immediately after by an attack of measles. Since this period her present illness has lasted till now.

Her only sister, aged 15 years, is in good health. Between the two there have been three miscarriages, one at four months' gestation and two at three months'. The mother suffers from pain in the left arm of an obstinate character and worse at night. Four years ago she lost a good quantity of hair from one spot over the right temple. This left a bald patch for some time. She also suffered at times from sore throat accompanied by loss of voice and has bad enlargement of the glands in the right side of the neck.

Before the child was seized with whooping-cough she suffered from strabismus—internal from the mother's description. Since last August she has been confined to bed or the couch with paralysis of the right side of the body. Up to the last few weeks she had attacks of vomiting, accompanied by headache.

Present condition: Right half of face, right arm and leg paralysed, with coldness of the hand and foot. There is absolute inability to move hand or foot on that side, and in smiling the right half of the face remains motionless. On the same side there is an exaggerated knee-jerk, ankle clonus and Babinski's sign.

The left eye exhibits several changes. There is ptosis, very marked, the pupil is widely dilated and there is paralysis of the muscles of the eyeball, almost complete. Slight movement outwards is the only movement detectable. There is no drawing up of the eyebrow on that side. The pupil is inactive to light or accommodation (ophthalmoplegia interna). The head is square-shaped and the forehead is high and prominent. The teeth are short and overcrowded.

She apparently hears well but replies to questions in monosyllables and in a slow and hesitating manner, and is inclined to sleep throughout a good part of the day.

On tapping the skull near the junction of the right parietal bone with the frontal some pain is elicited.

Papers.

(1) **Case of Sudden Death in Children who have been treated for Extensive Eczema**—Dr. Hichens.

(2) **Nocturnal Enuresis.**—Dr. Robson.

CLINICAL SECTION.

May the 2nd, 1913.

Purpura Hæmorrhagica, a Fulminating Case; Gelatine Treatment.—Dr. F. Parkes Weber.—The case is a fulminating one, though not an example of Henoch's fatal type of "purpura fulminans." The patient, a well-built boy, aged 13 years, was admitted to hospital on April the 17th, 1913, with the history that he had enjoyed good health until three days previously, when the present trouble commenced. On admission the boy was covered with petechiæ and ecchymoses varying greatly in size and from red to blue-black in colour. The darker petechiæ and larger ecchymoses were especially numerous on the lower extremities. There were many submucous petechiæ and ecchymoses in the mouth and pharynx; and there was a subconjunctival hæmorrhage over the sclerotic of his left eye. The urine passed on admission looked like slightly diluted blood with a little brownish colouring matter superadded; the specific gravity was 1022, and the reaction neutral; microscopical examination showed nothing special except blood-corpuscles. There was blood in the fæces when examined on April the 18th. Examination of capillary blood (Dr. Bauch) on admission: Red cells 2,360,000 and white cells 7000 to the cubic millimetre of blood. Differential count of white cells: Lymphocytes, 26·1 per cent.; monocytes, 1·9 per cent.; polymorphonuclear neutrophiles, 69·8 per cent.; eosinophiles, 1·1 per cent.; no mast-cells; myelocytes, 1·1 per cent. During the count of white cells two nucleated red cells (both normoblasts) were seen. There was no poikilocytosis. The erythrocytes appeared natural with the exception of very slight anisocytosis and polychromatophilia. By examination of the heart and lungs, and by palpation of the abdomen, nothing abnormal was discovered. There was no enlargement of the liver, spleen, or superficial lymphatic glands.

On admission a subcutaneous injection of gelatine (16 c.c. of Merck's "gelatina sterilizata") was given, and he was ordered milk, fruit, fresh vegetables, eggs, fish, etc., as well as jelly made from gelatine in his diet. The improvement in his condition was rapid and striking. On April the 19th there was much less hæmaturia, and the urine passed on the afternoon of the following day was quite free from blood and albumin. The subcutaneous hæmorrhages had in great part disappeared by April the 27th, and hardly a trace of the petechiæ and ecchymoses in the mouth remained. It should be mentioned, however, that though no retinal hæmorrhages were seen on admission (Dr. C. Markus), some appeared on April the 20th, one large one on the inner side of the optic disc of the left eye giving rise to loss of the outer part of the visual field in that eye. These retinal hæmorrhages are likewise clearing up, and his vision is now practically normal in every way in each eye. The red cells in his blood (May the 2nd) have already risen to 4,000,000 in the cubic millimetre; hæmoglobin 55 per cent. Dr. G. R. Ward, who has kindly examined a blood film, regards the appearances as characteristic of the condition usually met with some time after hæmorrhage, the variations of the erythrocytes in shape and size and staining property being greater than in normal blood. The patient's temperature, from his admission on April the 17th to April the 22nd, was often up to about 100° F., but since that date there has been no fever.

Philadelphia Pediatric Society.

April the 8th, 1913, Theodore Le Boutillier, M.D., President.

Hydrocephalus.—Dr. John Speese showed a case of hydrocephalus of extreme degree. The child had a small spina bifida; one month after birth the head began to enlarge; at two months it measured 60 cm. in circumference, with fontanelles widely open and superficial veins greatly distended. Some enlargement of the spina bifida was noticed, with constant oozing of cerebro-spinal fluid since. Both legs were paralysed, with absent reflexes. The general nutrition of the child was excellent. There was no history of syphilis in either parent. The hydrocephalus was to be explained by the possible prenatal closure of a foramen, since the spina bifida was already one congenital defect. The degree of the hydrocephalus was so great as to exclude any thought of operation.

Dr. Le Boutillier spoke of a baby, not so young as this, who was apparently normal until five months old. At seven months the head measured 23 in. The baby died at nine months.

Cerebellar Hæmorrhage.—Dr. Le Boutillier showed a girl, aged 5 years, who had fallen ten days before being observed. Family and previous history were both negative. Five days afterwards she developed staggering gait, which became progressively worse, until she could neither walk nor stand alone. Movements of the hands were also inco-ordinate, there were jerking movements of the head and at times slight nystagmus. When lying quietly in bed all movements ceased; but when she tried to sit up all movements were marked. Reflexes were lost except for an occasional slight knee-jerk on the right. Nose, throat, ear and eye examinations were negative. X rays showed no shadows. The diagnosis was hæmorrhage into the cerebellum.

Sarcoma of the Kidney.—Dr. Warren Walker, by invitation, showed the specimen of a hypernephroma, removed from a child, aged 2 years. Seven weeks before operation the mother first noticed bloody urine; then scanty urination and a tumour, which was freely movable and not painful. Cystoscope showed no urine passing from the left ureter. The child had recovered since.

The Histology of Urticaria Pigmentosa.—Dr. Frank Crozer Knowles reported five cases in detail, with a thorough review of the subject. The characteristic features and diagnostic picture were clearly demonstrated in one case. The basal cell layer showed a marked amount of pigment. The corium exhibited large quantities of mast-cells, arranged in a columnar manner and in dense groups. Numerous mast-cells were also found round the blood-vessels and lymph-channels, surrounding the sebaceous and sweat glands. The theories of the origin of these cells and of urticaria pigmentosa were discussed and photographs of patients and of the histological features were shown.

Dr. E. F. Corson said that this was, in the majority of cases, a disease of early childhood. It was not common, and must be distinguished from simple urticaria, which was due to indiscretion in diet, drugs, etc. The

lesions of pigmented urticaria, on the contrary, remained usually for a number of years. Glandular enlargement was not uncommon. While it might resemble xanthoma, the localisation of the lesions was different; besides, rubbing the lesion caused the production of a wheal. Treatment was of little avail; even X rays were of doubtful value.

The Bacillus Bulgaricus in Gastro-enteritis and Ileo-colitis.—Dr. John F. Sinclair described thirty-two cases of acute gastro-enteritis and ileo-colitis treated by tablets containing the *Bacillus lactis bulgaricus*. The ages of the children varied from 17 days to 2 years. Twenty had gastro-enteritis and twelve ileo-colitis. Eleven died, six of them from ileo-colitis. The cases of gastro-enteritis had normal stools within five days on the average; only seven of the ileo-colitis cases cleared up and showed normal stools. Nine days was the average time required. Sixteen cases showed an average loss in weight of $8\frac{7}{8}$ oz., while twelve cases showed an average gain of $6\frac{1}{4}$ oz., by the end of the first week. Practically all who recovered showed a gratifying gain in weight upon discharge. The feeds were individualised to suit the babies. An initial dose of castor oil was given in every case. Tablets of the *Bacillus bulgaricus*, while not specific, were of distinct service in controlling the putrefactive process in the intestines, thus establishing a normal condition of the stools.

Dr. D. J. Milton Miller, of Atlantic City, N. J., said that he was very sceptical about the results obtained both by Dr. Clock and Dr. Sinclair. Dr. Clock did not stop giving milk at all, though Dr. Sinclair did for a day or two. Dr. Sinclair reported 25 per cent. mortality, while Dr. Clock had had universal success. Dr. Miller protested against the immediate use and unreasonable endorsement of untried new remedies. If any one thing had reduced infant mortality, it was the comparatively recent practice of cutting off the food at once. This method had not been employed more than ten or fifteen years. Dr. Miller had used these tablets in two chronic cases without much success. Buttermilk might be of great value in some cases, especially long-standing, chronic or subacute cases of colitis with sour, fermented stools. In such he had used freshly prepared, home-made buttermilk heated to 170° F.

Dr. Seilikovitch remarked that both these tablets and butter-milk may be of great value in some cases, but not in every case.

Dr. Le Boutillier said that he had tried these tablets upon babies with fermentative diarrhœa. While a large percentage improved, some failed to improve and several relapsed.

Dr. Sinclair called attention to the fact that all of Dr. Clock's twenty-two cases had occurred in private practice and were surrounded by all possible advantages. While he did not consider the tablets a specific at all, they apparently did good in a large number of cases when the food had been stopped for twenty-four hours or longer.

Renal Tumours in Childhood.—Dr. Emery Marvel, of Atlantic City, N.J., reported the case of a child of 27 months, with an abdominal tumour. Four months later it was operated upon, four days after being brought to the physician for the first time. The right kidney, enclosing the tumour, was removed, weighing $4\frac{1}{2}$ lb. The patient recovered promptly; but now, three months after the operation, the child was apparently dying from a large tumour of the liver. While not especially rare, renal tumours were not common in childhood. Practically all solid tumours were malig-

nant. They most probably rose from rests of vestigial embryonal structures. Without operation, the prognosis was certain death. Authenticated recovery after removal had been frequently reported in recent years, notably by Robert Abbe. The immediate removal of the tumour is the only hope.

Dr. L. F. Stewart, by invitation, described the tumour. The major portion consisted of loose connective-tissue network. Running through this were strands of cells closely resembling typical fibrous connective tissue, but with larger, longer and narrower nuclei. On staining they were recognised as striated muscle-fibres more or less embryonic in character. Then there were clusters of round-cell sarcoma cells. The tumour belonged to the group called myosarcoma. The presence of several distinct tissue types would lead to the opinion that it was a teratoma, with very limited differentiation and a malignant tendency.

Precocious Development of the External Genitalia due to Hypernephroma.—Dr. H. D. Jump, with Dr. H. Beates, jun., and Dr. W. W. Babcock, by invitation, reported this case in a girl of seven years, who had shown growth of hair on the pubis at one year. At the age of seven there was profuse growth on the pubis, in the axillæ, on the chin and upper lip. The skin of abdomen and legs was rough; there was acne on the face, but without pigmentation. She was mentally precocious, and remarkably strong. Her voice was coarse and deep She was affectionate, played with dolls, but preferred to give rather than receive caresses. At the age of seven an abdominal tumour was found in the right hypochondriac region, with no enlargement of the superficial lymph glands. The clitoris was an inch long, half an inch in diameter, notched on the under surface, suggesting hypospadias. At operation an enormous perivascular and adherent hypernephroma of the right kidney was removed, with death three hours after operation. The tumour occupied nearly the entire abdominal cavity. Uterus and ovaries were infantile. Left kidney and adrenal appeared normal. The lungs showed moderate metastasis. The microscope showed hypernephroma with much tissue of the type of the adrenal cortex. No adrenal body was found. It was uncertain whether the tumour had developed from the adrenal tissue itself or from adrenal rests in the kidney. Dr. Jump reviewed the seventeen other cases previously reported. Fourteen of those eighteen cases were girls. These cases should be differentiated from true sexual precocity in girls by the presence in the latter of menstruation, enlargement of breasts and retention of female characters; from similar conditions in boys by the development of penis and testes. All eighteen cases died before the sixteenth year. With this syndrome there was presumptive evidence of hypernephroma of the adrenal cortex: exploratory operation should be done early, even before a tumour was palpable; with a tumour, its removal was imperative.

Dr. Miller admitted that, when he had shown his case ten years ago, he had had no knowledge of the connection between sexual abnormalities and the adrenals. His case died at 2 years, one year after he had shown her to the Society. If the changes in the adrenal cortex began early in intra-uterine life, the child was born a so-called hermaphrodite and was usually a female with enlarged clitoris and empty scrotum; if they began late in intra-uterine life, the clitoris was large and there was hair on the pubis. Dr. Marvel's case was probably a girl, though the family had evidently considered her a boy.

Société de Pédiatrie, Paris.

April, 1913. *Bulletin No.* 4.

Congenital Radio-ulnar Ankylosis.—M. Mouchet showed a boy, aged 11 years, with this bilateral malformation, without deformity of the elbow, but with atrophy of the muscles of the forearm.

Dupuytren's Sign in Congenital Dislocation of the Hip.—M. Lance found this sign present in a large number of children, rarely to any marked extent, but noticeable even with slight displacements. In the infant it was a sign of extreme value, and was almost constantly present; it was less frequent in the young child, in whom it was usually associated with great laxity of the ligaments, absence of muscular retraction, and often a badly formed acetabulum. Its presence in such cases was of bad prognosis with regard to the permanence of the reduction. Rarer still in elder children it was especially found in posterior displacements, when the muscular contraction was not too great to prevent the descent of the head of the femur.

Prognosis and Treatment of Acute Appendicitis at the Onset of the Attack.—M. Savariaud declared himself a convert to early operation, and gave his reasons; the only objections, he declared, were the possibility of frequent errors in diagnosis and the presence of adhesions, rendering the operation dangerous and complicated.

Rectal Prolapse.—M. Veau reported the case of a child, aged 15 months, with an enormous rectal prolapse easily cured by a wire ligature.

Vincent Dickinson.

Abstracts from Current Literature.

Medicine.

Dissemination of diphtheria bacilli in the heart-blood and organs (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift, p.* 698).—**P. Sommerfeld** records his investigations carried out at the Kaiser und Kaiserin Friedrich Kinderkrankenhaus in Berlin, from 1907 to 1912; 320 cases of diphtheria were examined as soon after death as possible. The blood was sterile in 132 cases (41·3 per cent.), contained cocci only in 146 (45·6 per cent.), and cocci (chiefly streptococci) and diphtheria bacilli in 42 (13·1 per cent.). Diphtheria bacilli were found almost invariably in the lungs and regional glands, less frequently in the liver and spleen, and very rarely in the kidneys. They were fairly frequent in the bile and cerebro-spinal fluid and very rare in the medulla. In every case they were associated with cocci. J. D. Rolleston.

The occurrence of diphtheria bacilli in the nose and throat of marasmic infants (*'Münch. med. Woch.,'* 1913, lxx, *p.* 512).—**E. Conradi** records 10 cases of infants aged from 2 to 7 months who for varying periods showed virulent diphtheria bacilli—in 8 in the nasal secretion and in 2 in

the throat—without any clinical symptoms of diphtheria. All the infants affected were in a low state of nutrition and most showed signs of the exudative diathesis. Children in adjacent beds whose general condition was better were not affected. J. D. Rolleston.

Diphtheria septicæmia (*'Am. Journ. Dis. Child.,'* 1913, v, *p.* 317).—**E. Morgan** reviews the literature and records a fatal case in a girl, aged 7 months, admitted to hospital for vomiting and progressive loss of weight. A fortnight later a profuse nasal discharge occurred, containing diphtheria bacilli. Improvement followed administration of antitoxin, but a month later the temperature rose to 102° F. and kept high. A bloody nasal discharge again occurred containing diphtheria bacilli, and organisms resembling these but non-pathogenic to guinea-pigs were isolated from cultures of blood taken from the external jugular vein. No autopsy. J. D. Rolleston.

A case of larval diphtheria (*'Nederland. Tijdschr. v. Geneesk.,'* 1913, i, *p.* 534).—**A. van Bemmel** was called to see a girl, aged 8 years, with cyanosis and severe dyspnœa. The nose and throat appeared normal; the glands were not enlarged and the temperature was normal. Laryngoscopic examination showed that the vocal cords were reddened, but that their movement was good. Tracheotomy was performed, and no membrane, but only mucus was coughed up. Recovery took place. A faucial culture was negative, but a culture of the tracheal mucus contained virulent diphtheria bacilli. Four days later the girl's mother was taken ill with faucial diphtheria. The writer alludes to Schols' case (*vide* British Journal of Children's Diseases, 1910, vii, *p.* 504) and to twenty-six cases reported by Lautmann, in which the faucial cultures were negative and the tracheal ones positive.

J. D. Rolleston.

Atypical pharyngeal diphtheria (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 1412).—**S. C. Lind** lays stress on the necessity of making cultures from every "sore throat," as the Klebs-Loeffler bacillus may be the cause of so-called tonsillitis and the true nature of the disease may be unsuspected. In support of this he describes three cases: (1) A girl, aged 11 years, who for twenty-four hours had experienced slight distress on swallowing and some constitutional disturbance, but not enough to keep her from school. There was some hyperæmia and congestion of the pillars, tonsil and posterior pharyngeal wall. Diphtheria bacilli were found. No antitoxin was given, and the patient recovered without being put to bed. (2) A boy, aged 11 years, who during a routine inspection was found to have considerable hyperæmia of the throat and a "creamy blue" exudate about ⅛ in. in diameter on one of the tonsils. Temperature 99·6° F. Culture showed diphtheria bacilli. No antitoxin was given, and the boy recovered without any further symptoms except one day of "feverishness." (3) A girl, whose submaxillary glands were swollen and tender. Nothing was found in the mouth or throat, but a week later the throat was red and a dirty-white membrane about ¼ in. in diameter was found on the right tonsil. Temperature 99·4° F. Diphtheria bacilli present. The patient had no treatment. She was allowed to be up and did not feel ill. T. R. Whipham.

The blood-pressure in diphtheria (*'Inaugural Dissertation,'* Leipzig, 1912).—**W. Fiedler** examined the blood-pressure in 46 children suffering from diphtheria, using an 8 cm. armlet connected with Sahli's Hg. manometer.

Like the abstracter, whose paper he quotes, he holds that no great diagnostic or prognostic value can be assigned to sphygmomanometry in diphtheria. The pressure at the end of the first and beginning of the second week is often lowered, and then returns to the normal. Rapid fall of pressure is usually accompanied by such severe clinical symptoms that even without estimation of the blood-pressure there can be no doubt as to the prognosis. (*Cf.* British Journal of Children's Diseases, 1911, viii, *p.* 433 and 1913, x, *p.* 29.)

J. D. Rolleston.

Post-diphtheritic facial paralysis (*'Jahrb. f. Kinderheilk.,'* 1913, lxxvii, *p.* 194).—**S. Wolff.**—A girl, aged 3 months, developed complete right facial paralysis three weeks after an attack of nasal diphtheria: 12,000 units of antitoxin were injected and recovery took place in three weeks.

J. D. Rolleston.

Diphtheritic hemiplegia (*'La med. valenciana,'* 1912, xii, *p.* 65).—**A. Cubells.**—A girl, aged 4 years, about three weeks after an attack of diphtheria that had been treated with antitoxin was suddenly seized with convulsions and loss of consciousness. There were constant clonic contractions of the facial muscles and convulsive movements of the right upper and lower limbs. The symptoms subsided within three hours, but the following day left hemiplegia was found together with palatal palsy. Further injections of antitoxin were given and complete recovery took place within a fortnight. Cubells refers to the case of Bitot and Petges (*vide* British Journal of Children's Diseases, 1910, vii, *p.* 513), in which convulsive attacks resembling tetanus were found to be due to diphtheria.

J. D. Rolleston.

Diphtheritic hemiplegia (*'Clin. Journ.,'* 1913, xlii, *p.* 12).—**J. D. Rolleston** relates 6 personal cases which occurred among a total of 9075 completed cases of diphtheria and reviews the literature. Eighty cases are now on record; 28 were males, 37 females, and in 15 the sex was not stated. The ages ranged from one and a half to seventeen years. Right hemiplegia occurred in 48, in 21 of whom aphasia was noted, left in 27 and in 5 no details were given. The hemiplegia occurred at the following dates: First week 1 case, second week 14, third 27, fourth to seventh 12. In 14 cases where no exact date is given it is said to have occurred in convalescence; in 12 no date whatever is given. Recovery took place in 52, though in only 4 was there complete restoration of function, death in 24, and in 4 no details are given. Necropsies were held in 18 cases. Embolism was found in 13, thrombosis in 3, hæmorrhage in 1, and sclerotic atrophy in 1. In all the cases in which details are given the initial attack was severe. Albuminuria and ordinary diphtheritic paralysis were present in a large number. Reference is made to the relative frequency of embolism in diphtheria (*cf.* British Journal of Children's Diseases, 1910, vii, *p.* 529).

Author's Abstract.

Diaphragm of trachea after tracheotomy (*'Münch. med. Woch.,'* 1912, lix, *p.* 1959).—**K. Justi.**—A girl, aged 7 years, a month after tracheotomy for laryngeal diphtheria, began to suffer again from dyspnœa. A second operation was performed at the site of the old wound, when a sickle-shaped band involving the whole lumen of the trachea, but thickest on the dorsal aspect, was seen at the upper end of the tracheal wound.

Three months later the band had become transformed into a membrane and was removed by polypus forceps, when it was found to consist of connective tissue without cartilage, being obviously due to scar formation in the mucous membrane. The diaphragm formation was certainly not caused by the tracheotomy tube, but probably by the cicatrisation of a diphtheritic loss of substance. Nine months after the first tracheotomy the child was finally able to do without a tube and complete recovery resulted. Only three similar cases have been recorded. J. D. Rolleston.

Fatal late hæmorrhage after tracheotomy in diphtheria (*'Mitteil. a. d. Grenzgeb. der Med. u. Chir.,'* 1912, xxv, *p.* 66).—**G. A. Lallemant** records six cases from literature and the following three personal cases. (1) Boy, aged 3 years. Three days after tracheotomy the tube was removed, but owing to a fresh attack of dyspnœa tracheotomy had to be performed again eleven days later. In another four days the wound was dilated and granulations were found on the anterior wall of the trachea below the incision, a plug of iodoform gauze was inserted and the wound partly closed. A week later sudden hæmorrhage occurred and proved fatal in two minutes. The necropsy showed death to be due to aspiration of blood into the lungs from an erosion of the innominate artery which communicated with the second and lower tracheotomy wound. (2) Boy, aged 2 years. Low operation performed. Tube removed in two days. On ninth day violent cough and severe hæmorrhage which ceased spontaneously, but recurred three hours later and proved fatal, death being preceded by convulsions. Post mortem an erosion of the arch of the aorta was found between the carotid and innominate communicating with the trachea. (3) Girl, aged 5 years. Low operation. Fourteen days later hæmoptysis and death in half an hour. The necropsy showed erosion of the innominate artery. J. D. Rolleston.

Diphtheria bacillus carriers and the staphylococcus pyogenes aureus (*'Lancet Clinic,'* 1912, cviii, *p.* 234).—**A. J. Bell** recommends that a fresh staphylococcus culture in broth should be made every morning and that no culture over twelve hours old should be used. The physician should first swab the throat with the culture, the rest of which should be placed in an atomiser and used as a spray by the patient himself every two hours during the day. Such treatment will substitute days instead of weeks in bringing about a negative result. Two successful cases in adults are reported. J. D. Rolleston.

Inhalations of hot air in diphtheria (*'Lyon méd.,'* 1913, cxx, *p.* 49).—**R. Rendu** uses a portable electric dryer through which the air passes into the mouth, increasing in temperature gradually during the first ten minutes from about 18° to 150°, at which it remains stationary. As soon as the limit of tolerance is reached the temperature is lowered and then raised again in the same way. Thirty-three children were treated with this hot air and thirty-three with serum. Eliminating deaths which could not be attributed to the method, viz. due to measles contracted while under treatment, the mortality was the same in each series, *i.e.* 15 per cent. The incidence of paralysis was also the same (9 per cent.). No cardiac complication was observed. The temperature came down and the false membrane disappeared as rapidly in one series as in the other—in fact the results were identical. The author considers that the two methods should be associated as they are not incompatible, the serum being antitoxic and the hot air

bactericidal. The latter may, however, be employed alone in tuberculous patients who do not tolerate serum or in patients previously injected with serum and susceptible to anaphylaxis. VINCENT DICKINSON.

Anaphylaxis due to antidiphtheritic serum (*'Ann. de Méd. et Chir. Inf.,'* 1913, XVII, *p.* 204).—**Hallé** and **Bloch.**—A child, aged 2½ years, was admitted to hospital on September 8 with faucial diphtheria. Forty c.c. of serum were given on three successive days, the third dose being followed by generalised urticaria. On September 12 another 40 c.c. were given: the rash increased and there were joint pains. Paralysis of the palate occurred, and later ocular paralysis. On November 2 fresh membrane appeared in the fauces and extended to the palate and there were signs of croup. Forty c.c. of serum were given by the mouth. The child got worse, so the next day at 11.50 a.m. 40 c.c. were injected slowly subcutaneously. In a few seconds the face became pallid, then cyanotic and began to swell and the body and limbs relaxed. The pulse disappeared completely; respiration was irregular and hardly perceptible. The pupils dilated and became insensitive to light and the superficial reflexes disappeared. There was incontinence of fæces and urine. In five minutes the respiration improved but was Cheyne-Stokes in character, the face became less cyanotic, and some purpuric spots appeared on the temples. Camphorated oil was injected and oxygen inhaled. By noon the breathing had become more regular but was stertorous and the pulse could not yet be felt. The rectal temperature was 103° F. At 12.30 p.m. the pulse could be felt but was too rapid to count. The child opened its eyes; after this the symptoms gradually improved. Strychnine and adrenalin were injected. The next day the child was better, the membrane less, but the urticarial rash lasted for a week. Later pneumonia set in and the child was again at the point of death, but finally recovered completely.

J. PORTER PARKINSON.

Pastia's sign in scarlatina (*'La Pediatria,'* 1912, XX, *p.* 898).—**A. Bizzari.**—Pastia's sign, described by him in 1911, consists of a continuous linear eruption at the bend of the elbows of vivid red colour, sometimes of ecchymotic tint. Bizzari investigated its occurrence in 103 cases of scarlatina. In 18 it was absent, but two of these had punctiform hæmorrhages which might be considered an equivalent. Of the 95 in which it was present, in 10 it was found on one limb only, in 19 it was very slight, in 68 well marked. In 100 cases of measles it was absent except in 3 cases in which the measles eruption was atypical. In several cases of toxic and drug eruption, it was invariably absent. VINCENT DICKINSON.

The significance of Döhle's inclusion-bodies in scarlet fever (*'Zentralbl. f. inn. Med.,'* 1913, XXXIV, *p.* 369).—**A. Lippmann** and **A. Hufschmidt** investigated these bodies in 75 cases, 25 of which were scarlet fever and the rest other diseases. The bodies were present in all but 2 of the scarlet fever cases, both of which were mild, and in a certain number of cases of diphtheria, pneumonia, severe anæmia and heart disease, and absent in tumours, pertussis and nephritis. In no disease were the bodies so numerous or so typical as in scarlet fever. Their number diminished on the fourth day and was least on the eighth. The writers conclude that with high fever and absence of these bodies scarlet fever is improbable, while on the other hand, their presence alone does not justify the diagnosis of scarlet fever.

J. D. ROLLESTON.

Necrosis of the vertebræ following scarlet fever (*'Glasg. Med. Journ.,'* 1912, II, p. 428).—**D. F. Riddell.**—A girl, aged $3\frac{3}{4}$ years, had an attack of scarlet fever of the septic type, with severe ulceration of the fauces, and followed by broncho-pneumonia. An attack of laryngitis necessitated tracheotomy. During the illness numerous abscesses developed, and in addition the patient had otorrhœa and nephritis. The laryngeal symptoms were very troublesome, and the urgency of these symptoms necessitated the re-introduction of the tracheotomy tube on several occasions. Two months after the commencement of the illness a small glandular abscess at the side of the trachea was opened, and about four months later a large fluctuating swelling suddenly appeared on the back, to the inner side of the right scapula. This was incised and a large quantity of foul pus was evacuated. On probing the wound necrosis of a vertebral spine was found. The child gradually sank and died twelve days later. Post mortem it was found that the spine of the first dorsal vertebra was necrosed, only a small portion remaining. The right lamina also showed signs of necrosis. There was a small patch of necrosis in the spinous process of the second dorsal vertebra. The lungs, on section, showed evidence of tuberculosis and the mediastinal glands were caseating and breaking down. J. Allan.

Co-existence of scarlet fever and varicella (*'Giorn. internaz. d. Sci. med.,'* 1913, XXV, p. 145).—**A. Montefusco.**—A female child, aged 12 months, was admitted to hospital with a desiccating varicella eruption and a faint scarlatinal rash on the fifth day of disease. The throat was slightly reddened. Temperature 39·4° C., pulse small and very frequent. The following days the scarlatinal rash became first bright and then dark red. The temperature rose to 40·5° C. and death took place three days after admission. J. D. Rolleston.

The association of scarlet fever and measles (*'Arch de méd. et pharm. mil.,'* 1913, LIX, *pp.* 241 and 321).—**Talon.**—The diseases may be said to be associated when one occurs within thirty days of the other. The association varies from 1 to 5 per cent. in different epidemics of scarlet fever given or measles. Owing to methods of hospital prophylaxis it is less frequently seen now than previously. Talon adopts the classification of Hutinel (*vide* British Journal of Children's Diseases, 1911, VIII, *p.* 375). (1) Measles preceding scarlet fever. The gravity of scarlet fever is more marked, especially if it develop soon after the eruption of measles. (2) Measles and scarlet fever occurring simultaneously. This is the least common association. The diagnosis is often difficult and the prognosis is grave. (3) Measles following scarlet fever. This is the most frequent association. Its gravity lies in the frequency of broncho-pneumonia. The paper contains an extensive bibliography. J. D. Rolleston.

Necrosis of the jaw following measles (*'Brit. Med. Journ.,'* 1912, II, *p.* 1547).—**J. A. Graham** reports a case of the above in an infant aged 11 months. J. Allan.

A second attack of mumps (*'Jahrb. f. Kinderheilk.,'* 1913, LXXVII, *p.* 197).—**J. F. Friedjung.**—A boy, aged $15\frac{1}{2}$ months, at the same time as a brother aged 10 and a sister aged 8 years, had a typical attack of mumps in June. The right parotid was affected first and then the left. Convalescence was slow, as subfebrile temperature persisted throughout the summer.

In October the child had another attack of mumps, the right parotid alone being affected. The brother and sister did not have a second attack. The rarity of second attacks in mumps is shown by Widowitz not having met with a single instance among 395 cases of mumps (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VIII, *p.* 131). J. D. ROLLESTON.

Whooping-cough in a premature infant (*'Univ. Toronto Med. Bull.,'* 1912, I, *p.* 45).—**C. E. Cooper Cole.**—The mother, who had developed very severe whooping-cough in the sixth month of pregnancy, gave birth to a well-developed eight months male infant on May 26. On the 29th the baby coughed for the first time. During the next fortnight the temperature ranged between 99° and 100° F. and the cough became more severe and paroxysmal until on June 12, seventeen days after birth, the child had a typical paroxysm ending in a whoop. For three weeks the paroxysms ranged from twelve to twenty-two daily. Diarrhœa with green stools occurred in the third week and emaciation was rapid. The last severe attack occurred on July 14. Finally recovery took place, and at six months the patient was the equal of any other child of that age. J. D. ROLLESTON.

Reflex stimulation of the vagus centre in the treatment of whooping-cough (*'Med Press and Circ.,'* 1912, II, p. 631).—**A. T. Brand** reports the case of a girl, aged 10 years, suffering from a severe attack of whooping-cough, who was quickly cured by blistering the skin of the neck along the course of the vagus, an area of the size of a shilling being painted with linimentum iodi on both sides immediately behind the angle of the lower jaw. The paroxysms were at once not only greatly reduced in severity, but the interval between them was so much prolonged that the acts of vomiting became infrequent, food was retained and assimilated, and the child made a rapid recovery. J. ALLAN.

A quick macroscopic agglutination test (*'Arch. Pediat.,'* 1912, XXIX, *p.* 189).—**J. Ruhräh** describes Bass and Watkins' quick macroscopic method for carrying out the Widal test for enteric fever. It is performed on an ordinary microscope slide. A suspension of typhoid bacilli is used, of the strength of 10,000 million typhoid bacilli per c.c. in 1·7 per cent. sodium chloride solution. This solution is stable and may be marketed without difficulty. A surgical needle mounted on a cork and kept sterile by immersion in a small bottle containing alcohol is used for obtaining the blood. One fourth of a drop of blood, *i. e.* about the amount used for differential blood-counts, is taken. One drop of water is spread over the blood on the slide and mixed with a clean toothpick or match-stick. One drop of the typhoid bacilli suspension is then added to the mixed blood and water, and the slide tilted from end to end or from side to side. The blood can be allowed to dry on the slide and the test performed when convenient. A positive reaction is indicated by a greyish mealy sediment, consisting of agglutinated bacilli, appearing within a minute at the edges and gradually spreading. It is useless to continue the test longer than two minutes. It is said to be as reliable as the orthodox method.

CHRISTOPHER ROLLESTON.

The Bass-Watkins typhoid agglutination test (*'Arch. Pediat.,'* 1912, XXIX, *p.* 194).—**J. Menville** describes the application of this test in two children aged 5 and 3 years. The test was first tried in the first case on the

seventeenth day when there was no eruption and the spleen was not enlarged. There was headache, but the diagnosis until the test was positive might have been pneumonia, meningitis, influenza or typhoid. In the second case the test was positive when first seen on the fourteenth day of the disease. There was no eruption, and the bowels were obstinately constipated. The pupils were dilated and there was convergent strabismus. The patient was very irritable and cried as if in pain. The clinical signs, therefore, indicated tuberculous meningitis rather than typhoid fever.

CHRISTOPHER ROLLESTON.

Typhoid fever in infancy (*'Arch. of Pediat.,'* 1912, XXIX, *p.* 565).—**J. P. C. Griffith** analyses 75 cases which occurred during the first two years of life. Nine were one year old or less, the youngest being three months, 36 one to two years old, and 30 from two to two and a half; 65 were white and 10 coloured children. In only 16 was the disease present in other members of the family. The onset was of decidedly shorter duration than in older children; the attack usually came on rapidly and was often sudden; in about one third of the cases it was more gradual. The symptoms of onset consisted chiefly of fever, diarrhœa, vomiting and loss of appetite, less often of cough, fretfulness and abdominal pain. The temperature rose rapidly, diarrhœa and vomiting were more common than in later life, prostration was seldom marked. Epistaxis was rare. In the developed attack the digestive symptoms were the same as those met with at the onset. Bronchitis was common but seldom important. The heart and pulse were seldom much involved. Nervous symptoms were not marked, the typhoid state of the adult being very exceptional. Only occasionally did the disease simulate meningitis. The temperature was not characteristic. The fall was often as rapid as the rise. The total duration of the fever was three weeks, or less in the great majority, and in at least a third only two weeks or less. Rose-spots were as common as in the adult, but appeared earlier, often from the fourth to the sixth day. Splenic enlargement was found in at least one half. Widal's reaction was as characteristic as in adults, and leucocytosis was usually absent. Thirty-one infants had some complication, a tendency to suppurative processes being commonest. Relapses occurred in three, the intervals between the attacks being fourteen, fifteen and five days. Twelve died—a mortality of 16 per cent., which is decidedly higher than in early childhood. Death was due in five to complications such as pneumonia or diphtheria and in seven to the disease itself. In only three were necropsies obtained. The appearances were similar in all. The spleen and mesenteric glands were enlarged and Peyer's patches and solitary follicles were swollen. Two showed very superficial ulceration, and one none at all. The treatment was symptomatic. Hydrotherapy was systematically employed. Cold baths were never given, the water used being of a temperature of 90° to 100° F. The diet was largely milk, sometimes broth, beef-juice and albumin water.

J. D. ROLLESTON.

Typhoid fever with five relapses (*'Zentralbl. f. inn. Med.,'* 1912, XXXIII, *p.* 1071).—**O. David** records a case in a boy, aged 11 years, where the diagnosis was confirmed by a positive Widal's reaction and the presence of typhoid bacilli in the blood. No complication or secondary infection could be found to account for the repeated rises of temperature, which were therefore regarded as relapses. The duration of the relapses was 16, 25, 19,

11 and 5 days respectively, and of the fever-free intervals 5, 2, 5, 11 and 21 days respectively. Complete recovery finally took place.

J. D. Rolleston.

Multiple intestinal perforation in a relapse of typhoid fever (*'Paris méd.,'* 1912–13, I, *p.* 490).—**Pellot** and **Galland.**—A boy, aged 15 years, on the tenth day of a relapse of typhoid developed symptoms of perforation. Laparotomy performed the same day showed four perforations in the neighbourhood of the cæcum. Each was closed with a Lembert's suture and complete recovery took place. J. D. Rolleston.

Typhoid appendicitis (*'Giorn. internaz. d. Sci. med.,'* 1912, XXXIV, *p.* 1057).—**F. Fazio** records a case of a girl, aged 13 years, in whom the typhoid infection was localised in the appendix. In addition to the symptoms of appendicitis, the spleen was enlarged, the leucocytes numbered 12,000 and Widal's reaction was positive. Recovery took place without operation. A review of the literature is given. J. D. Rolleston.

Some complications of typhoid fever in the child (*'Ann. de méd. et chir. inf.,'* 1912, XVI, *p.* 385).—**Leenhardt, Maillet** and **Canieu** describe two cases of phlebitis in typhoid fever occurring in two brothers aged 14½ and 10 years. In the elder boy the typhoid fever was of a very mild form. Pain was first perceived in the left leg on the eighteenth day of disease before defervescence had begun. Within ten days the condition completely subsided. The fever in the younger child was of a more serious nature, but the phlebitis, which occurred as late as the fifth week of the disease, was very mild, the œdema being confined to the right foot and ankle and only lasting three days, while the pain was felt in the leg only and not in the thigh, and was of nine days' duration. There was nothing abnormal in the circulatory system of the patients or their parents. The condition was therefore due to the selective localising influence of the typhoid bacillus. The authors also describe a case of relapse which, contrary to custom, was of a very severe nature. The primary attack was of moderate intensity, but on the twentieth day of the disease the temperature and pulse had fallen to 96·8° F. and 68. The same day the temperature and pulse again rose, the right heart dilated, and there was broncho-pneumonia of both lungs. The belly became hard and rose-spots appeared. There was severe diarrhœa. The patient became delirious, with carphology and sulsultus. The relapse lasted for twenty-four days. Hæmorrhage is rare in children. Three severe hæmorrhages occurred in a girl, aged 10 years, on the tenth and twelfth days of disease. The first two hæmorrhages consisted of 400 c.c. of black coagulated blood, the third of 300 c.c. After the hæmorrhages the temperature fell 3½ degrees but the pulse was unaffected ; they exerted no influence on the course of the disease. Christopher Rolleston.

Typhus fever in children (*'Arch. f. Kinderheilk.,'* 1912, LIX, *p.* 199).—**A. Molodenkoff,** of the Morosoff Hospital in Moscow, records his observations on the typhus epidemic during the first four months of 1911. 115 children aged from 1 to 14 years were affected. No cases occurred in the first year. There were 22 in the first quinquennium, 55 in the second, and 38 between 10 and 14; 50 were boys, 65 girls. All belonged to the poorer classes. Unlike other observers, Molodenkoff found that the fever lasted as long in children as in adults. The severest cases occurred between

8 and 13 and children under 3 had only mild or moderate attacks. All recovered (the mortality among adults in the epidemic was 8 per cent.). Otitis media occurred in 20, usually in the third week; mastoid abscess in 4; pneumonia in 2, on the sixth and seventeenth days, and there was one case each of myocarditis, nephritis and amentia. Three were followed by scarlet fever on the fourteenth to seventeenth days, two by whooping-cough and one by diphtheritic laryngitis. Among cases erroneously certified were 7 of typhoid fever, 3 of relapsing fever, 8 of pneumonia, and 1 each of influenza, erysipelas and acute gastritis. In the diagnosis Molodenkoff lays stress on the value of the diazo-reaction, which appears early, is well marked, and is absent only in a few cases. Another constant symptom is leucocytosis. At the height of the disease 10–16,000 white cells are found. The relative number of neutrophils is increased, and that of the lymphocytes is diminished. In treatment, special attention was given to keeping the mouth and throat clean. Tepid baths were regularly employed. Owing to strict cleanliness, ventilation and avoidance of over-crowding only one nurse was infected in the epidemic. Seven of the staff had previously not had typhus. The literature is reviewed and reference made to the recent observations of Nicolle (*vide* British Journal of Children's Diseases, 1912, ix, *p.* 327).

J. D. Rolleston.

Relapsing fever in children in Odessa (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift, p.* 777).—**J. Winocouroff.**—Relapsing fever in children is one of the mildest infections, since among 291 cases in the course of twenty years (1890–1910) treated in the Children's Department of the Israelite Hospital at Odessa, there was only one death, as compared with a mortality of 2 to 6 per cent. in adults. Children are less susceptible to the disease than adults, and their power of resistance is due to a healthy heart and a liver unaffected by alcohol. Complications, which are frequent in adults, are rare in children. The temperature curve in children shows many variations from the ordinary chart. The persistence in Odessa of a disease which has disappeared from Western Europe is due to the deplorable hygienic conditions prevalent in the town.

J. D. Rolleston.

A case of hydrophobia (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 990).—**A. Hand, C. Y. White** and **J. Reichel** report the case of a girl, aged 5 years, who was bitten in the cheek by a dog. The wound healed promptly, but seventeen days later fever accompanied by intermittent mania set in. Death occurred twenty-four hours after admission to hospital, the temperature rising to 109·4° F. shortly before the end. Microscopical examination of the cerebellum showed the presence of Negri bodies within the Purkinje cells. Two rabbits were inoculated with an emulsion of the cerebellum, one of which died and showed Negri bodies in portions of its cerebellum and hippocampus major, while the other did not show any signs of being infected. The inoculation test, the authors consider, is sufficient to establish the diagnosis.

T. R. Whipham.

Malaria in the newborn and young infants (*'Gaz. internaz. di med. chir., etc.,'* 1913, *p.* 265).—**V. Fragale,** as the result of five years' observations, comes to the following conclusions: (1) Newborn children never develop malaria owing to the abundance of nucleated red cells and leucocytes in their blood. (2) Many sucklings escape because of the quinine in their mothers' milk. (3) Children who have had malaria before they are one

year old rarely contract it later. (4) Before one year of age the attack is never severe and later pernicious forms are very rare. (5) A child whose mother does not take quinine regularly as a prophylactic can readily contract malaria, and if the mother suspend the treatment the child may fall ill ten to fifteen days after she has done so. (6) Malaria in the father or mother has no influence on the fœtus. J. D. Rolleston.

Streptococcus infection in a child, aged 2 years (*'Med. Record,'* 1911, II, *p.* 750).—**M. O. Magid** was called to see a boy suddenly taken ill after eating sausages with a temperature of 104° F. and marked rigidity on the right side of the abdomen. On operation the appendix was found normal, but the peritoneal cavity full of pus and streptococci. The child died; no autopsy was permitted. The cause of the peritonitis was never discovered.
F. R. B. Atkinson.

Otology, Rhinology, and Laryngology.

The prevalence of catarrhal deafness and its economic consideration (*'Med. Rec.,'* 1913, LXXXIII, *p.* 646).—**H. Hays** shows by statistics the prevalence of catarrhal deafness, which forms about 20 per cent. of the cases seen in American hospitals, and emphasises the fact that the majority start without warning in early childhood as the result of the various diseases of that period of life. The paper is an eloquent plea for the better prevention of deafness by attention to the causes which lead to it in childhood. Macleod Yearsley.

Opportunities for the preservation of hearing (*'Journ. Amer. Med. Assoc.,'* 1913, I, *p.* 878)—**Bryant** points out that in children 30 per cent. of serious loss of hearing is due to conditions which if treated in time would obviate injury to the ears. These conditions include suppuration and the so-called catarrhal conditions, which are equally important in this connection. For the prevention of the condition, nasal catarrh and adenoids must be given careful attention. In the young, proper care of nose and throat, orthodontia and prevention of mouth-breathing are necessary for conservation of the hearing. In exanthems and certain infectious fevers, the preservation of the hearing should be safeguarded by careful and constant attention to the ears and naso-pharynx. These infectious diseases are responsible for 47 per cent. of the cases of serious deafness in children.
Macleod Yearsley.

Acute suppurative otitis media due to bacillus typhosus (*'Cleveland Med. Journ.,'* 1913; XII, *p.* 146).—**D. A. Prendergast** and **O. Schultz.**—A child, who had had a mild attack of typhoid fever, developed otitis media. Puncture of the slightly reddened drum membranes was followed by a small amount of purulent discharge containing typhoid bacilli. The otitis cleared up in a few days, but death took place from meningitis two weeks later. As the cerebro-spinal fluid contained streptococci only, the meningitis was probably a secondary infection in which the typhoid bacillus was not concerned.
J. D. Rolleston.

The surgical anatomy, diagnosis and treatment of the inflammatory affections of the nasal accessory sinuses in children (*'Arch. of Pediat.,'* 1913, XXX, *p.* 4).—**S. Oppenheimer** thinks that sinusitis is

much more frequent in children than is generally considered, and that many cases of meningitis are due to unrecognised inflammation of some of the sinuses. Such inflammations in the child are more often acute or subacute than chronic, and many instances of post-nasal catarrh are but symptoms of some adjacent sinusitis. The more frequently involved sinuses in the child are the ethmoid cells and the maxillary antra. The recognition of sinusitis in the child is more difficult than in the adult, as symptoms are obscure and rarely characteristic. It is especially liable to occur in influenza, measles, scarlatina and pneumonia. Antral infection may occur in the newborn from vaginal discharges of the mother or from injury by instrumental delivery. In diagnosis X rays are of great value. Pain is often illusory, but its cessation with the onset of free nasal discharge is significant. Treatment should aim to destroy as little tissue as possible. Intranasal treatment should be carried out with preservation of turbinals as far as possible. MACLEOD YEARSLEY.

Relation to, and influence upon, respiration during childhood of normal and abnormal dental arches (*'Arch. of Pediat.,'* 1913, xxx, *p.* 25).—**A. Zentler** writes this paper to prove the importance of correcting improperly developed dental arches. By widening the dental arch, a straightening of the nasal septum and a proportionate enlargement of the nares can be obtained. Constricted dental arches do not exist where there are no adenoids. The mouth-breathing "habit" following removal of obstruction is not a habit, but the result of an anatomical change. The author thinks it is never too early to remove adenoids or too early to endeavour to correct faulty dental arches. MACLEOD YEARSLEY.

Persistent mouth-breathing following adenoidectomies (*'Boston Med. and Surg. Journ.,'* 1913, i, *p.* 230).—**Sobotky** emphasises the following points: (1) Nasal breathing exercises have not proved efficient for the cure of persistent mouth-breathing. (2) Operative treatment of the nasal condition is indicated, and must be appropriate for the age of the patient. (3) Adenoids should be removed before the typical high palatal arch is formed. (4) If this high arch is formed the treatment should be dental—such as spreading the arch and regulating the teeth. (5) Cutting a slice of mucous membrane from the enlarged lower turbinates as an aid to nasal respiration has given good results. (6) A submucous resection should not be done in children under sixteen. (7) Electrolysis, using the bipolar method, is effective in reducing the enlarged turbinates, but is not suited for children. MACLEOD YEARSLEY.

Adenoids (*'Prag. med. Woch.,'* 1913, xxxviii, *p.* 175).—**G. Brecher** regards adenoids as inherited and acquired. General unhygienic conditions, especially the damp climates of seaside towns, and acute infectious diseases are determining causes. In diagnosis digital examination should never be practised; the symptoms should be confirmed by anterior and posterior rhinoscopy. In treatment he recognises nothing but operation, but this does not mean that every case of adenoids should be operated. Only in infants is there a categorical imperative to operation. In later years the symptoms permit the indication for operation. Brecher uses a general anæsthetic for extremely nervous children. In the great majority he is satisfied with a local anæsthetic. A swab of 20 per cent. solution of alypin is passed through

the nose and left for five to eight minutes in the naso-pharynx. This is done three times with the head hanging down. His paper concludes with remarks on complications he has encountered. M. D. Eder.

Complications of adeno-amygdalectomies (*'Paris Méd.,'* 1912–13, I, *p.* 175).—**R. Moreaux** considers that to avoid secondary infection after amygdalo-adenoidectomy it is good to use the galvano-cautery in extirpating enlarged tonsils when their condition allows it. It is further necessary, before operating, to make certain that the field of operation is aseptic and to maintain the neighbouring mucous membranes in that condition for several days after intervention. Macleod Yearsley.

Certain dangers of the adenoid operation (*'Johns Hopkins Hospital Bulletin,'* 1913, XXIV, *p.* 112).—**W. E. Grove** discusses these dangers under the headings of post-operative bleeding and post-operative infections and describes two cases of the latter. He gives an extensive literature, but, strange to say, omits the exhaustive research of Grossard and Kauffmann. He insists upon careful operation and careful after-treatment.

Macleod Yearsley.

The Baltimore epidemic of streptococcus or septic sore throat and its relation to a milk supply (*'Johns Hopkins Hosp. Bull.,'* 1913, XXIV, *p.* 1).—**L. P. Hamburger** points seven morals to the tale, adorned by photographs and charts, of this epidemic. They are: (1) The undue prevalence of sore throat and other influenzoid affections should be reported to the municipal health department for investigation as to the possibility of milk conduction of the infection. (2) A streptococcus infection, when it is introduced into a community through milk, possesses an extreme virulence, and may produce a clinical picture characteristic in some aspects and complicated in many. (3) It is possible that raw milk from any dairy, though carefully produced and handled, may at some time convey a streptococcus infection. (4) From a study of the American epidemics of streptococcus or septic sore throat the importance of thorough pasteurisation of clean milk in its final containers under official inspection is clear. (5) If by accident the pasteurising plant of a dairy is disabled the dairy should notify its patrons to boil the milk. (6) When the price of pasteurised milk is prohibitive it is suggested that the practice of boiling milk should be advocated, or instruction in home pasteurising should be given in medical dispensaries by visiting nurses and by physicians. (7) Finally, it is obvious that milk inspection, as at present conducted, is inadequate. Macleod Yearsley.

Pneumococcal angina in children (*'La Pediatria Española,'* 1913, II, *p.* 132).—**A. R. Lozano** and **T. G. del Diestro** record three cases in children, aged 2, 3, and 8 years, and come to the following conclusions: (1) Pneumococcal angina is much more frequent than has hitherto been supposed. (2) It may be primary or secondary to localisation of the pneumococcus in other organs (rhinitis, pneumonia). (3) Its chief symptoms are sudden onset, vomiting, high fever, headache, muco-purulent nasal discharge, pharyngeal congestion with formation of a thin very white non-adherent membrane on the tonsils, slight glandular reaction, dysphagia and constipation. (4) The course is rapid and favourable when there are no complications. The most frequent complication is pneumonia. (5) The

diagnosis may be difficult from other forms of membranous angina, especially staphylococcal or streptococcal. (6) Even in complicated cases the prognosis is not grave, owing to the benignity of pneumococcal processes in children. (7) Treatment should be limited to hygienic measures and local applications of hydrogen peroxide. J. D. Rolleston.

Vincent's angina (*'Med. Record,'* 1913, i, *p.* 424).—**C. C. Sutter** records four cases, two of which occurred in children: (1) Girl, aged 16 years. A primary attack in which the left tonsil only was involved was followed by a relapse three weeks later, in which the ulceration was localised on the lateral walls of the pharynx. (2) Child, aged 2 years, in whom Vincent's angina occurred in the acute stage of scarlet fever and involved right tonsil, both pillars, and right lateral wall of pharynx. Treatment consisted in swabbing with hydrogen peroxide, and after the necrotic material was removed in application of 10 per cent. copper sulphate, and finally a saturated solution of potassium chlorate. The ulceration was completely healed in about three weeks. J. D. Rolleston.

Inoculation of a monkey with Vincent's angina (*'Compt. rend. Soc. de Biol.,'* 1912, lxxiii, *p.* 389).—**E. M. Marzinowski,** of Moscow, scarified the mucous membrane of the left tonsil of a *Macacus rhesus* and rubbed on it deposit taken from the throat of a patient suffering from Vincent's angina. On the fourth day the monkey's temperature rose to 39·6° C. and remained high for five days. On the fifth day a thick deposit appeared on the tonsil, increased in extent from day to day, and only disappeared on the tenth day. In addition to other micro-organisms it showed numerous fusiform bacilli and spirilla. After the temperature had become normal a cervical abscess formed, and the same organisms were found in the pus in large quantities. A smaller number were also found in an enlarged gland in the right axilla. J. D. Rolleston.

When and why remove the faucial tonsil? (*'Therap. Gaz.,'* 1913, xxix, *p.* 80).—**W. H. Tomlinson** makes the following sensible remarks regarding the removal of the faucial tonsils: (1) A small tonsil may require removal as urgently as a large one. Size has nothing to do with the indications for removal, excepting for symptoms of obstruction. (2) Simple hypertrophy in a healthy individual is not an indication for removal. (3) Simple hypertrophy becomes an indication for removal when the degree is such that respiration, deglutition or speech is interfered with. (4) Tonsils with crypts which fail to clear themselves become the seat of chronic lacunar disease, and systemic infection is likely to occur. (5) As a general proposition the free, outstanding tonsil is less likely to cause trouble than the submerged tonsil. This is because drainage from the crypts is better. (6) The submerged tonsil, partly buried beneath the faucial pillars, is very likely to require removal, because drainage from the crypts, especially those emptying into the supra-tonsillar fossa, is interfered with. In examining this class of cases the pillars should be retracted in order better to investigate the condition of the crypts. (7) Glands at the angles of the jaw that persistently remain palpable are evidence that the tonsil barrier to infection has been passed, and are indications for tonsil removal.

Macleod Yearsley.

The remote results of tonsillotomy and tonsillectomy (*'Lancet,'*

1913, I, *p.* 444).—**Whale** points out that discussions on tonsillectomy and tonsillotomy have hitherto centred round technique, and that as yet we know not whether the tonsil is a friend or an enemy. He concludes that the disadvantages of tonsillectomy outweigh those of tonsillotomy, but admits that the former is more likely to cure the trouble for which advice is sought. MACLEOD YEARSLEY.

Severe hæmorrhage after tonsillectomy (*'Gazz. d. osp.,'* 1913, XXXIV, *p.* 313).—**A. Malan** records two cases of severe hæmorrhage, one of which occurred in a boy, aged 7 years, five hours after operation with the Fahnerstock-Mathieu guillotine, being brought on by straining at stool. The hæmorrhage arose from the vessels of the left tonsil, lasted half an hour and ceased spontaneously. No recurrence took place. The boy had previously had teeth extracted without subsequent hæmorrhage. J. D. ROLLESTON.

Angioma of the larynx, especially its relation to chronic laryngitis (*'Amer. Journ. Dis. Child.,'* 1913, V, *p.* 123).—**J. Phillips** describes a case of this very rare condition in a boy, aged 9 months. A critical review of the literature only shows 26 undoubted cases. The majority occur during middle life, the oldest being 62 years. The proportion of males to females is about 4 to 1. MACLEOD YEARSLEY.

Paralysis of dilators of the glottis following laryngeal diphtheria (*'Echo méd. du Nord,'* 1913, XVII, *p.* 154).—**Deléarde.**—A boy, aged 5 years, was admitted to hospital with purely laryngeal diphtheria. Three intubations were required. As recession persisted, a laryngoscopic examination was made which revealed paralysis of the posterior crico-arytænoid muscles. Daily injections of 10 c.c. of antitoxin were given and recovery took place in about three weeks. J. D. ROLLESTON.

Reviews.

DISEASES OF CHILDREN. By VARIOUS AUTHORS. Edited by ARCHIBALD E. GARROD, D.M., M.A., F.R.C.P., F.R.S., Physician to St. Bartholomew's Hospital and to the Hospital for Sick Children, Great Ormond Street, London; FREDERICK E. BATTEN, M.D., M.A., F.R.C.P., Physician to the Hospital for Sick Children, Great Ormond Street, and Physician to Out-patients, National Hospital for the Paralysed and Epileptic, London; and HUGH THURSFIELD, D.M., M.A., F.R.C.P., Physician to Out-Patients, Hospital for Sick Children, Great Ormond Street. London: Edward Arnold, 1913. Pp. 1184. Price 30s. net.

THE aim of the present work, as set forth in the preface, is to give a comprehensive and authoritative account of the present state of our knowledge of the diseases of children with a completeness not hitherto attempted in this country. The editorial triumvirate are to be congratulated on the success of their efforts and on the careful selection of their nineteen collaborators.

The following is a list of the contributors and their articles from the London children's hospitals: F. E. Batten, "Diseases of the Nervous System," "Diseases of Muscles"; A. E. Garrod, "Disease as it Affects

Children," "Diseases of the Ductless Glands," "Disorders of Metabolism"; R. Hutchison and G. E. Waugh, "Diseases of the Alimentary System"; F. Langmead, "Diseases of the Newborn"; F. J. Poynton, "Diseases of the Circulatory System"; G. F. Still, "Œdema in Children"; Theodore Thompson, "Infectious Diseases"; H. Thursfield, "Immunity, Serum-Therapy and Vaccines," "Diseases of the Hæmopoietic and Lymphatic Glands"; and A. F. Voelcker, "Rheumatism and Chorea" (Great Ormond Street); E. Cautley, "Feeding of Infants and Children," "Disorders of Nutrition" (Belgrave Hospital); A. M. Gossage, "Heredity," "Congenital Syphilis," and H. Morley Fletcher, "Diseases of the Liver, Pancreas and Peritoneum" (East London Hospital); L. Guthrie, "Functional Diseases of the Nervous System," and G. A. Sutherland, "Diseases of the Lungs and Pleuræ" (Paddington Green); J. W. Carr, "Tuberculosis," and H. D. Rolleston, "Diseases of Bones and Joints" (Victoria Hospital).

The contributors from the other London hospitals are H. G. Adamson, "Diseases of the Skin," and F. A. Rose, "Diseases of the Naso-pharynx and Larynx" (St. Bartholomew's Hospital), and E. W. Goodall, "Infectious Diseases" (Eastern Fever Hospital). J. S. Fowler, "Diseases of the Genito-Urinary System," and John Thomson, "Congenital Mental Defect in Childhood," are the representatives of the Edinburgh Royal Hospital for Sick Children. In addition to twenty-three chapters there are four initial sections or "Prolegomema," of which the most important is that by E. Cautley on "The Feeding of Infants and Children." Unlike some authorities the writer regards the tuberculin test and Wassermann's reaction as unnecessary in the choice of a wet-nurse. Percentage feeding is deprecated as scientifically unsound, and the following lines deserve quotation: "The repetition of meals identical in flavour, quality and quantity is absolutely opposed to Nature's method of feeding. The child's stomach is not a test-tube, nor feeding merely a chemical experiment." In the chapter on "Diseases of Nutrition," in which atrophy, rickets and scurvy are included, the same writer gives valuable suggestions as to the treatment of these conditions. He dismisses as based on insufficient evidence the various hypotheses brought forward in explanation of chronic atrophy, which he regards as simply due to an unsatisfactory diet.

In the chapter on "Diseases of the Alimentary System," by R. Hutchison and his surgical colleague, G. E. Waugh, special attention should be given to the sections on indigestion and constipation in infancy and late childhood, cyclic vomiting, intestinal obstruction, appendicitis, and congenital pyloric stenosis. The administration of purgatives and enemata in the first few hours of the attack of appendicitis before the diagnosis is established is strongly condemned. In the great majority of cases of congenital pyloric stenosis operation is regarded as unnecessary. In his article on "Diseases of the Lungs and Pleuræ," G. A. Sutherland protests against two current opinions, viz. that an empyema is easily diagnosed and that its surgical treatment requires little skill. At the operation he recommends that a thorough exploration of the pleural cavity should be made with the finger, so as to break down adhesions and feel for a second empyema. He does not believe that breaking down of adhesions causes spread of infection to healthy pleura.

An admirable account is given of broncho-pneumonia and lobar pneumonia, and their distinguishing features are summarised. Special stress is laid on the diagnostic value of inverted respiratory rhythm and inverted action of the alæ nasi in pneumonia. In his important contribution on cardio-

vascular disease F. J. Poynton draws attention to the importance of infective processes in the causation, and illustrates this by an analysis of 600 personal cases. His study of rheumatic heart disease should be read with the chapter on "Rheumatism and Chorea," by A. F. Voelcker, who appears to regard the specific nature of the organism described by Poynton and Payne as non-proven, though admitting that it has fulfilled Koch's postulates more nearly than any of its competitors.

L. Guthrie has a fascinating article on "Functional Diseases of the Nervous System," which he divides into somatic and somato-psychic or psycho-somatic. He rejects the view that functional disorders are entirely psychic in origin, and lays much stress on the influence of disorders of the sympathetic cortex cerebri and optic thalamus in the production of hysterical and functional neuroses. A valuable guide to organic diseases of the nervous system and diseases of muscles is provided by F. E. Batten. The sections on acute poliomyelitis, cerebral diplegia, progressive spinal muscular atrophy and muscular dystrophy, to the elucidation of which the writer has so much contributed, will be read with special interest.

E. W. Goodall and Theodore Thompson each contribute a chapter on infectious diseases, the former being mainly concerned with those diseases which in this country are treated in isolation hospitals. We would direct special attention to the article on "Smallpox," which is usually either entirely omitted or inadequately discussed in text-books devoted to children's diseases.

In dealing with outbreaks of diphtheria in institutions or schools the same writer deprecates wholesale swabbing of the inmates, and regards it as unnecessary to isolate chronic carriers if they are healthy. This view provokes a protest from the editors, who maintain the orthodox opinion held by the majority of bacteriologists, school medical officers and medical officers of health.

The volume closes with an admirably lucid account of diseases of the skin by H. G. Adamson.

Space has not allowed us to give more than a brief notice to some of the more important articles, but it suffices to say that, both from a practical and a theoretical point of view, all are of high value. Emanating as they do from those who are themselves authorities the chapters are not overloaded with references, though in most cases recent literature receives due acknowledgment.

The illustrations are good as a whole, though we regard many as unnecessary, and some, especially in the chapter on "Diseases of the Skin," are scarcely worthy of the text.

For a book of this size there is a praiseworthy scarcity of misprints, most of which are to be found in the names of foreign writers, *e.g.*, Brünig for Brünings (p. 146), Babonneuse for Babonneix (pp. 823, 825), Plout for Plaut (p. 141), Popischill for Pospischill (p. 462), Schlotz for Schiötz (p. 1039), and Terrier for Terrien (p. 68). The false concord "a sudamina" (p. 767), and the loose expression, "The child cried . . . like a diphtheritic paralysis" (p. 823), will doubtless be corrected in the next edition.

These, however, are but trivial blemishes, and in no way detract from the value of a work which will long rank as the leading English text-book on children's diseases.

J. D. R.

ARCHIV FÜR KINDERHEILKUNDE. LX UND LXI Band. Zugleich Festschrift für Adolf Baginsky. Herausgegeben von Dr. A. SCHLOSSMANN. Stuttgart: Ferdinand Enke, 1913. Pp. 825. Price M. 26.

THIS fine volume, which is dedicated to Prof. Baginsky on the occasion of his seventieth birthday, contains forty-three articles by well-known authorities on children's diseases on the Continent and the United States of America. It is to be regretted that this country is not represented. A detailed notice of the individual articles will appear later in our "Abstracts from Current Literature," but in the meantime a list of the authors and their papers arranged according to their subjects may be of interest to our readers.

Infant Feeding and Hygiene: "Sterile Raw Milk," A. Schlossmann (Düsseldorf). "The Baginsky-Hafland Electric Safety Incubator," W. Thiede (Berlin). "Municipal Care of Infants in Lübeck," T. Joel (Lübeck). "Infantile Mortality in the Duchy of Baden," S. Felsenthal (Mannheim). Anatomy: "Form, Position and Changes of Position of the Bronchial Tree in Childhood," St. Engel (Düsseldorf). Acute Infectious Diseases: "Variola in the Newborn," A. Epstein (Prague). "Dissemination of Diphtheria in the Heart-blood and Organs," P. Sommerfeld (Berlin). "Relapsing Fever in Children in Odessa," J. Winocouroff (Odessa). "Contagiosity of Heine-Medin's Disease," J. Langer (Graz). "Erroneous Diagnoses in Poliomyelitis," J. Zappert (Vienna). Tuberculosis: "Course of Tuberculosis in Childhood," A. Czerny (Berlin). "Paths of Infection in Tuberculosis during the First Year of Life," O. Medin (Stockholm). "Clinical Observations on the Tuberculosis of Infants," J. Cassel (Berlin). "Muscular Work and Bodily Constitution: A Contribution to the Campaign against Tuberculosis in Childhood," H. Roeder (Berlin). "Lactation in Maternal Tuberculosis," O. Cozzolino (Cagliari). "On the Prognosis of Tuberculosis in Infants," G. Tugendreich (Berlin). "Studies on Tuberculin," H. Aronson (Berlin). "Ambulatory Tuberculin Treatment of Scrofula and Tuberculosis in Children," W. Wolff (Berlin). Syphilis: "On Late Hereditary Syphilis," G. Alsberg (Cassel). "The Subsequent History of My Cases of Syphilis in Children treated with Salvarsan," J. von Bokay (Buda-Pesth). "Heredosyphilitic Spastic Paraplegia," A. B. Marfan (Paris). Diseases of Alimentary System: "Primary Purulent Inflammation of the Salivary Glands," J. Lewin (Berlin). "Rumination in Infancy," H. Brüning (Rostock). "Dysentery in Infants and Young Children," J. Bauer, Ellenbeck and Fromme (Düsseldorf), and "Dysentery in Infants," E. Siegel (Berlin). Diseases of Circulatory System: "Pulse and Blood-pressure in Later Childhood," R. Friberger (Upsala). "Unimportant Murmurs in the Precordial Region of Children and Young Persons," C. Hochsinger (Vienna), and "Banti's Disease in Children," A. D'Espine (Geneva). Neurology and Psychiatry: "Acute Encephalitis," J. Comby (Paris). "Little's Disease," L. Concetti (Rome). "Diagnosis of Optic Neuritis by Ophthalmoscopy," R. Taderstein (Berlin). "Feeble-minded Children," E. Schlesinger (Strassburg), and "Masturbation before School Age," E. Neter (Mannheim). Internal Secretions: "Chemical Composition of the Thymus Gland in Children," L. Mendelsohn (Berlin), and "Lesions of the Suprarenals in Scarlet Fever," V. Hutinel (Paris). Rickets: "Defects of Enamel and their Relation to Rickets and Spasmophilic Conditions in Infancy and Childhood," H. Helbich (Berlin), and "Treatment of Rachitic Deformities," M. Böhm (Berlin). Surgery: "Development and Modern Problems of the Surgery of Peritonitis," T. Gluck (Berlin). "Acute Osteomyelitis and Osteoplastic Surgery in Childhood at the Kaiser and

Kaiserin-Friedrich Children's Hospital from 1890–1912," F. Wachsner (Berlin). Miscellaneous: "Pædiatrics in the United States," A. Jacobi (New York). "Hufeland's Views on Pædiatrics," J. W. Troitzy (Charkow). "Recollections," R. Fischl (Prague), and "Studies from the Children's Policlinic at Hamburg," C. Stamm. A list of Prof. Baginsky's contributions to literature is appended. J. D. R.

Studies in Smallpox and Vaccination. By William Hanna, M.A., M.D., D.P.H., Assistant Medical Officer of Health for the Port of Liverpool; Visiting Physician to the Port Isolation Hospital. Bristol: John Wright & Sons, Ltd., 1913. Price 7s. 6d. net.

This work, which is based on the author's experience in the City and Port of Liverpool during the last ten years, is divided into three parts. Part I is devoted to a statistical study of 1163 cases of smallpox, with special reference to vaccination in modifying the disease. In Part II there is an analysis of 943 cases of smallpox (with primary vaccination) in relation to scar-area and severity of disease. Part III contains observations on the interaction of concurrent variola and vaccinia.

The following figures may be quoted here, as bearing on the incidence of smallpox in childhood.

Among the 943 vaccinated no cases of smallpox occurred under 2 years of age, from 2 to 5 there were 7—all very mild cases—and among the 62 cases between 10 and 15 there were no severe cases or deaths. On the other hand, among 220 unvaccinated, 29 cases occurred under 2 years, with a mortality of 58 per cent.; 26 between 2 and 5, with a mortality of 30·6 per cent.; and 31 from 10 to 15, with a mortality of 3·2 per cent.

The book is illustrated by a number of excellent photographs, illustrating the various degrees of severity of smallpox and of the protection afforded by vaccination, and should prove a useful guide both to practitioners and public health administrators. J. D. R.

Smallpox and its Diffusion. By Alexander Collie, M.D., M.R.C.P. Bristol: John Wright & Sons, Ltd. Pp. 58. Price 2s. net.

Dr. Alexander Collie has written a clear and amusing little work attacking the theory of aërial convection of smallpox, which emanated from the medical department of the Local Government Board more than thirty years ago. The prevalence of smallpox round a hospital is explained, not by aërial convection, but by the faulty methods of hospital administration, which allowed ambulance porters and nurses to stop and refresh themselves and their patients at public-houses, and by the fact that in certain areas no compulsory notification was in force, and mixed cases were of common occurrence, being diagnosed then, as now, by eminent dematologists as rare skin diseases with resounding names.

The figures given by the Hackney Medical Officer of Health receive the following criticisms:

In the first place a non-epidemic decennium is compared with an epidemic period.

Secondly, it was true that increased incidence was noted in the streets surrounding the hospital, but before the utilisation of the building for smallpox these streets did not exist.

Thirdly, the character of the neighbourhood changed from a prosperous

and middle-class district to a thickly populated slum, and of this no mention was made.

Fourthly, the author of the Hackney aërial convection theory left out of account the institutions within 100 feet of the hospital, which were free from smallpox, or nearly so, and which, since the question of personal contact was eliminated, should offer a splendid field for the proof of aërial convection, inasmuch as these institutions were full of susceptible persons.

Dr. Collie has proved his case, but it is unfortunate that he has left unnoticed later work, such as that by Dr. Thresh. C. R.

Pye's Surgical Handicraft. A Manual of Surgical Manipulations, Minor Surgery and other Matters Connected with the Work of House Surgeons and Surgical Dressers. Edited and largely re-written by H. H. Clayton Greene, B.A., M.B., B.C., F.R.C.S., Surgeon to St. Mary's Hospital. Sixth Edition. Bristol: John Wright & Sons, Ltd., 1912. Price 12s. 6d. net.

This well-known handbook, which first appeared in 1884 and has now reached its sixth edition, is too well known to require detailed notice. The present edition has been thoroughly brought up to date by the editor assisted by various specialists, among whom may be mentioned Alexander Fleming on "Recent Advances in Diagnosis and Treatment of Syphilis," Leslie Paton on "Minor Surgery of the Eye," and H. W. Carson on "Diseases of the Nose and Throat," "Common Diseases of the Larynx," and "Common Complaints of the Ear." Of special interest to the pædiatrist is Section V, entitled, "Of Cases requiring Prolonged or Mechanical Treatment," and dealing with hip-disease, spinal diseases, genu valgum, talipes, etc. The careful attention to detail shown throughout the volume well illustrates the truth of the aphorism on the front page, "Vel de minimis curat chirurgus." J. D. R.

The Medical Annual: A Year-Book of Treatment and Practitioner's Index. 1913. Thirty-first year. Bristol: John Wright & Sons, Ltd. Price 8s. 6d. net.

The appearance of this annual is always a welcome event to those interested in the progress of medicine, and the present volume is no exception to the rule.

With the exception of acute infectious diseases, which are reviewed by Dr. E. W. Goodall, the majority of the articles dealing with children's diseases are by Dr. F. Langmead, who has proved a worthy successor to Prof. G. F. Still. It is gratifying to find that this Journal's original articles, society intelligence and abstracts have been freely quoted, with due acknowledgment. We are pleased to note that there is a greater tendency than before for contributors to insert the volume and page instead of the month in their bibliographies, as reference to the original article is thereby considerably facilitated.

A glossary of new terms has been inserted, and additions are to be made yearly. The shortness of the present list should indicate that contributors have not been extravagant in their use of neologisms. J. D. R.

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Original Articles.

COLI INFECTION OF THE URINARY TRACT IN INFANCY AND CHILDHOOD.*

By N. PERCY MARSH, M.B.Lond., M.R.C.S.,

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IT is to Escherich of Vienna that we are indebted for having been the first to call our attention to the frequent occurrence of coli infection of the urinary tract in infants and young children. The publication of his monograph in 1894 was quickly followed by others from Finkelstein, Göppert and Trump, whose investigations confirmed his observations, and led to the establishment and general recognition in children of the conditions known as coli cystitis and coli pyelitis. Many other organisms—staphylococci, streptococci, gonococci, and the bacilli of diphtheria, typhoid and tuberculosis—may occasionally be the exciting cause, but, as Escherich pointed out, the *Bacillus coli* is by far the most frequent, and in his own series of cases 58 out of 60 were found to be due to this organism. His findings in this respect have been confirmed by later writers. Jeffreys in a recent publication reports 121 cases, of which 67 were coli, 37 staphylococcic, 10 streptococcic, 3 pneumococcic and 4 miscellaneous.

Its occurrence among infants has been more recently emphasised

* Read before the Liverpool Medical and Literary Society, April the 11th, 1913.

by Thompson and other writers. At this early age it is extremely likely to be overlooked owing to the difficulty of obtaining specimens of urine for examination; and as a consequence, after a prolonged and wasting illness of many weeks' or months' duration, the cause of death is ultimately certified as being due to marasmus or tuberculosis.

The path by which the *Bacillus coli* may gain an entry into the urinary tract has been the subject of keen controversy. Birk believes that a co-existing tuberculosis and the so-called exudative diathesis are predisposing factors, and Friedenwald has published 80 cases of which 59 had preceding gastro-intestinal disturbances.

The fact that from 90 to 95 per cent. of the cases occur in girls at once suggests that direct infection of the urethra by rectal contamination, with a consequent ascending infection, occurs in a preponderance of cases. The short urethra in the female and the baneful habit of wiping with the diaper from behind forwards, renders infection by this route easy. Box also has demonstrated the *Bacillus coli* to be present in the urine of children suffering from thread-worms, the ova themselves being found in the bladder. The ascending route, especially in girls, has received support from most writers; in boys, however, it is rare, but it has been noted by Morse to occur after circumcision. This mode of infection has been opposed on the ground that in many of the cases the pelvis of the kidney is alone affected, the bladder and ureter remaining healthy, but even in these cases it is possible that the organisms may ascend the lymphatics outside the ureter, or, as Leutscher has shown, they may ascend through the bladder and ureter without producing any inflammation in those channels.

A second route by which the organisms may gain an entry is by their direct passage from the bowel to the kidney or from inflamed pelvic organs to the bladder or ureters. The right kidney, owing to its close relation with the colon, is especially liable to become infected in this manner. This route has been experimentally demonstrated by Wredin, and Franke has shown that in rabbits the ascending colon and cæcum are connected with the right kidney by a chain of lymphatics, whereas none are found to be connected with the left kidney. In order that infection may occur by this trans-parietal route the intestinal epithelium must have been destroyed either by disease or by artificial means, so that the organisms may pass from its walls into the surrounding tissues and lymphatics. Escherich believed this mode of infection to be the rule in the rare cases in which boys are infected, and in the three cases which I have seen

it followed acute ileo-colitis, chronic tuberculous peritonitis with intestinal ulceration and long-continued constipation respectively.

The third and last theory as to the method of infection is, that the organisms are carried by the blood-stream directly to the kidney with a consequent descending infection. In 1889, Albarran, and in 1896 Macaigne described a hæmic infection of the kidneys with *B. coli* causing a parenchymatous nephritis and multiple miliary abscesses. Posner and Lewin have proved experimentally the possibility of a hæmatogenous infection, but in children its occurrence must be considered rare, as examination of the blood by Escherich and Wunscheim was almost always negative. In such cases the organisms probably get into the blood-stream through a breach of surface of the alimentary canal such as is frequently met with in acute inflammations of the intestine and in tuberculous ulceration.

Clinically as a result of infection we are able to recognise four distinct conditions: First, simple bacilluria in which the urine is acid, clear or faintly opalescent, and may or may not have the characteristic fishy odour. On standing, a mucous cloud will form, in the meshes of which the bacilli will be found. Secondly, cystitis in which the urine is acid and opalescent, and on microscopical examination it is found to contain numerous motile organisms and pus-cells. The symptoms we should expect to find are increased frequency of micturition, dysuria and a slight rise of temperature, but no severe constitutional disturbance. Thirdly, pyelitis, in which the constitutional disturbance is much greater, with often a high remittent type of temperature: the attack may be ushered in with shivering or rigor and there are many pus-cells and motile organisms in the urine. Lastly, we may have a pyelo-nephritis in which the general symptoms are very severe, wasting is pronounced, and in addition to pus-cells there are tube-casts and albumin in the urine.

In the twenty-three cases upon which this paper is based the protean character of the symptoms is one of the most striking features. In infancy the onset is usually sudden, but on careful inquiry it is not infrequently found that for some days previously there has been an increased frequency of micturition with an offensive odour of the urine, and possibly signs of irritation round the vulva and meatus. The onset of acute symptoms is often marked by shivering or a distinct rigor, after which the temperature rises rapidly to 104° or 105° F.; it then assumes a remittent type, resembling enteric fever or acute general tuberculosis. This remittent character may be

maintained for weeks, or there may be intervals in which the temperature is normal, alternating with severe relapses.

Shivering is a very important sign, and when present should always suggest the possibility of pyelitis, as it is exceedingly rarely met with in infancy except in this condition. The general disturbance and distress are considerable; the baby rapidly loses weight, and is restless, very fretful and tender to touch.

Squint, head-retraction, drowsiness and vomiting may be present, producing a clinical picture closely simulating, and difficult to diagnose from, meningitis. Local symptoms—and here is one of the chief difficulties of diagnosis—may be absent altogether, or so slight as to escape recognition. There may be an increased frequency of micturition, with dysuria, occasional colicky pain, and in some cases tenderness on palpation over one or other loin—a sign exceedingly difficult to determine owing to the infant's general fretfulness and sensitiveness.

The urine on inspection will be found to be opalescent or turbid, and when shaken it shows a mucous sheen. It has a peculiar and unpleasant fishy odour, an acid reaction, and on standing deposits a sediment consisting of pus and epithelial cells from the urinary tract. The turbidity is not removed by acids, nor does it disappear on boiling, and on microscopical examination there are seen, in addition to the pus and epithelial cells, large numbers of motile bacilli.

Thomson has noted that when the temperature first rises pus is not always found in the urine, but it usually appears in a few days; further, it may disappear entirely for a day or two and then reappear, which Göppert suggests is due to only one ureter being affected, and to its having been temporarily blocked while the other remains patent.

In three of my cases occurring in infants general œdema was a marked symptom, and, indeed, in older children puffiness and swelling about the eyelids is not an uncommon sign. Alice McK—, aged 18 months, is a good example of this type. She was admitted to hospital on July the 16th, 1912, with a history of having been feverish and drowsy and losing weight for three weeks. A week before admission the face, arms and legs began to swell, but there were no local symptoms pointing to bladder trouble. She weighed 14 lbs. 13 ozs., and looked ill and wasted. The temperature was 100° F., pulse 126 and respirations 26, and there was considerable œdema of the face, trunk and extremities. The urine was offensive, turbid and acid: on centrifugalisation it contained no casts, but

large numbers of pus-cells and motile organisms. Cultures were made and a pure growth of *B. coli* obtained.

Another case in which there was general œdema was that of Eliz. D––, aged 8 months, but here the swelling had been noticed for two months before admission. There was in addition a history of wasting and the frequent passage of turbid and offensive urine. On admission she was pale and fretful, and in addition to general œdema there were patches of erythema on the trunk and limbs. The urine was turbid, contained a trace of albumin but no casts, and large numbers of pus-cells and motile organisms were found, which on culture proved to be *B. coli*.

In older children the disease may be acute or chronic: in the former either the constitutional or the local symptoms will predominate, depending on whether we are dealing with a pyelitis or a cystitis. In the chronic type it is not unusual for the local signs to be utterly insignificant, and the constitutional symptoms may also for a long period remain latent.

Attacks in which the constitutional symptoms predominate commence, as in infancy, with shivering, restlessness, high fever, anorexia, headache and vomiting. The skin is hot and dry, the pulse rapid, respirations increased, herpes may appear on the lips, the abdomen be slightly distended, and even the spleen enlarged. Nervous manifestations are sometimes marked, and produce a symptom-complex which may closely simulate cerebro-spinal meningitis. They take the form of extreme restlessness, irritability, decubitus in crouched-up attitude, head-retraction, muscular twitchings, hypertonus and delirium. The temperature may remain high, 103° to 105° F., for several days, and then abruptly terminate, or considerable oscillations of temperature may be present.

Acute infections in which local symptoms are present are much easier diagnosed: these patients as a rule suffer from increased frequency of micturition, dysuria and incontinence; signs of inflammatory irritation are also often present round the meatus and vulva. Pain may be so severe as to cause the child to scream during micturition, there may be tenderness over the bladder or kidney, and in some cases distinct enlargement of the kidney may be felt. In other cases pain referred to the subcostal and epigastric regions may be complained of, and there may be slight rigidity of the abdominal muscles (Box).

Lastly there are the chronic and persistent infections which are occasionally seen in infants, but more frequently in older children. In these there is usually a persistent bacilluria with but slight signs

of inflammatory reaction of the bladder, ureter, or pelvis, and there is little or no constitutional disturbance. Nocturnal incontinence of urine is not infrequently met with, and in many girls in whom this troublesome condition has lasted for months or even years a microscopical examination of the urine will show a colon infection to be the exciting cause.

Children suffering from this chronic variety are generally poorly nourished, anæmic and flabby; they suffer from general malaise and may have a slight elevation of temperature, which persists over a long period. Shivering or rigors are rarely present, nor is there any complaint of local tenderness or pain. Periodical exacerbations are apt to occur, and may assume the form of bilious attacks with persistent vomiting very similar to the cyclical vomiting of acetonæmia, or there may be joint pains with dulness and apathy closely simulating rheumatism. Box has reported a chronic case which ultimately passed into a condition of uræmia; the post-mortem examination showed the right kidney shrunken and its pelvis dilated; the left kidney was swollen, mottled, coarsely granular and partly hydronephrotic. The ureters were dilated and thickened, and the bladder hypertrophied from chronic cystitis; there was no obstruction in the urinary passages.

In two of my cases skin eruptions were the most prominent manifestations; in one, Barbara B—, aged 3½ years, there was a six months' history of frequent outbreaks of "spots" over the trunk and limbs at intervals of a few weeks; some of these were urticarial in character, and others, especially on the hands and feet, formed blebs like pemphigus. She had no local symptoms pointing to the urinary tract, but the urine was acid and contained pus-cells and motile organisms, which on culture proved to be *B. coli*. The urine was rendered alkaline with citrate of potash, after which she made a quick recovery, the rash entirely disappearing, and up to the present time (four months) there has been no recurrence.

Another case worthy of special mention was that of Sheila S—, aged 2 years and 11 months, who was taken suddenly ill with chill, high temperature, drowsiness and slight delirium. Four days later the urine was found to contain albumin and sugar in large quantities; there were no casts, but crowds of motile organisms, which upon investigation proved to be *B. coli*. Under full doses of citrate of potash the temperature rapidly became normal, the sugar and albumin disappeared, and in less than three weeks cultures made from the urine were negative.

The diagnosis of these infections depends entirely upon a careful

microscopical and bacteriological examination of the urine in patients with the symptoms above described, care being taken at the same time to exclude disease in other organs sufficient to account for the symptoms. The characteristics of the urine in the acute cases have already been described, but in those of a persistent and chronic type the diagnosis is sometimes far from easy. The urine is acid, odourless, and looks perfectly normal, but on standing a mucous cloud deposits, in the meshes of which, after centrifugalisation, pus-cells and organisms will be found.

With regard to agglutination reactions and opsonic index determinations, Dudgeon has shown that although the opsonic and phagocytic indices are low they are not reliable, and that the agglutination test is of no value. Pfaundler, on the other hand, has demonstrated that a bouillon culture of bacilli grown from urine and mixed with the blood-serum of the same patient will produce agglutination even when highly diluted.

When the symptoms are wholly constitutional the true nature of the complaint is very likely to be overlooked; if the onset is sudden it may suggest the presence of an infective fever, pneumonia, meningitis, or otitis media. Meningitis is frequently diagnosed in cases with marked cerebral irritation; and, indeed, the nervous symptoms in an acute pyelitis may so closely simulate it as to require an examination of the cerebro-spinal fluid before that disease can be finally excluded.

In chronic cases, in which there is continued malnutrition associated with slight febrile disturbance, and no local signs or symptoms, a suspicion of a tuberculous focus is sure to arise, and in such cases an examination of the centrifugalised urine for pus-cells and organisms should never be omitted. When local symptoms are prominent, with the presence of pus in an acid urine, bacteriological examination will demonstrate the tubercle bacillus if tuberculous disease of the kidney or bladder is present, and calculus can be excluded by an X-ray examination.

Prognosis.—The course of the disease is very variable: the acute symptoms are usually over in a few days or weeks, but a considerable number of cases become chronic, and with periodic exacerbations may last for months, or even years. Birk reports one child who had such recurrences five times in ten years, the last occurring at the age of 12. The ultimate outlook of most cases is favourable; but the rapidity of the cure depends largely upon an early diagnosis and whether the physician, before pronouncing the patient cured, requires that the urine should not only show an absence of organisms

and pus-cells, but should also be culturally free from the colon bacillus.

In 40 cases occurring in infancy reported by Still, only 3 were fatal; out of Thomson's 25 cases, 21 recovered, 3 died from the disease spreading to the kidney and 1 of abdominal tuberculosis. Jeffreys reports 37 cases from Great Ormond Street, of which only 11 were discharged cured, and 6 died—3 of the illness, and 3 of other illnesses, of which the coli infection was a complication. Göppert had 10 deaths in 84 cases, and Ramsey has reported 25 cases, of which none died. Of my 23 cases, 12 were discharged cured, 5 greatly improved, and 3 are still under treatment and improving. Three have died—1 of acute ileo-colitis, 1 of broncho-pneumonia, and 1 of tuberculous meningitis.

Pathologically two types of the disease may be distinguished, the one showing simply a catarrhal condition of the bladder, ureter and pelvis of the kidney, and the other showing multiple abscesses in the cortex of the kidney. Very few autopsies have been made owing to the condition being so rarely fatal, and in none of my fatal cases could we obtain permission for a post-mortem examination. John Thomson has reported in detail the post-mortem findings in two cases occurring in infants. In one the kidney was enlarged and the surface studded with collections of pyæmic foci surrounded by a hyperæmic zone; on section the pyramids were intensely engorged and showed radiating lines of suppuration. In the other, in addition to extensive changes in the kidney substance of a similar type the ureters were dilated.

Apparently no permanent damage occurs in the kidneys of patients who are cured. Friedenwald reports one case in which death occurred from tuberculosis seven weeks after the patient had been cured of pyelitis, and post-mortem examination could discover no lesions in the urinary tract.

Treatment.—Many acute cases get well spontaneously, and many chronic cases resist every means of treatment that may be adopted. According to John Thomson the main indications are two—first, to ensure a copious secretion of urine by the free exhibition of fluids, and secondly, to render the urine alkaline as quickly as possible and keep it so for some weeks. The reason for this is that colon bacilli develop less easily, and phagocytosis is more active in an alkaline medium. The best drug for this purpose is the citrate of potash, which must be given in doses varying from 5 to 20 gr. every three or four hours. The smallest dose Thomson has found effective is 24 gr. in twenty-four hours, but 120, 150, or even 180 gr. may be

necessary. The urine generally becomes alkaline in one to three days, after which, as a rule, the temperature quickly falls, the symptoms subside, and the pus-cells and organisms rapidly diminish in number. If digestion is disturbed or diarrhœa set up by the citrate of potash, Still points out that the alkalinity may be maintained by 5 to 10 gr. of bicarbonate of sodium or potassium given every two or three hours. I have found citrate of soda added to the infant's bottle equally valuable under these circumstances.

Baby R—, aged 15 months, a typical case of coli pyelitis, illustrates the value of this method of treatment. On December the 25th, 1912, she was taken suddenly ill with shivering, restlessness, and high temperature, which during the next six days ranged between 101° and 104°F. When seen on the 31st she looked pale and ill, was losing weight rapidly, the face was puffy, and the temperature 103·2° F. Examination of the lungs and abdomen was negative, but the urine was found to be thickly turbid and to contain numerous pus-cells and motile organisms. She was put on 5 gr. of citrate of potash every three hours; the urine became alkaline in forty-eight hours, after which the symptoms quickly subsided and the temperature became normal. By January the 16th she had gained 1 lb. in weight, the temperature was continuously normal, and the urine, which was clear and alkaline, only contained an occasional pus-cell after centrifugalisation. Since then she has continued to make an uninterrupted recovery.

Kitty F—, aged 6 years, a similar case occurring in an older child, was noticed in November, 1912, to be passing urine frequently and to be restless at night. Three weeks later a febrile attack was ushered in with a chill, rapid respiration, and general malaise; the urine contained much pus and motile organisms. When seen on December the 19th the acute symptoms had subsided, but the urine still contained many pus-cells and organisms. She was given 15 gr. of citrate of potash every three hours, and by January the 8th the urine, which was alkaline, was found to contain no pus-cells or organisms even after prolonged centrifugalisation. Cultures from the urine have been made on several occasions during the past few months, and the result has always been negative.

Betz is directly opposed to this method of treatment and believes that the colon bacillus is unable to proliferate in very acid concentrated urine. He therefore advocates phosphoric acid and a meat and no vegetable diet in order to make the urine strongly acid, limits the amount of fluid given, and in addition prescribes hot-air baths to encourage a concentrated urine.

My experience with urinary antiseptics has not been satisfactory: in acute cases they have not been of much value, and in chronic ones they have been useless. Urotropin and helmitol are the drugs I have employed, but I have usually combined them with a sodium salt, which may account for my lack of success. It is important to bear in mind that the action of urotropin and its allies depends upon their being broken up in the body and excreted as formaldehyde. Sisson has recently shown that the excretion of formaldehyde only occurs in an acid urine, and therefore to gain good results from urotropin it is essential that the urine should be first rendered acid with phosphoric acid or sodium acid phosphate. Box believes that urotropin has very little influence on *B. coli*, and Dudgeon asserts that if a patient suffering with pyelitis is benefited by its use *B. coli* is not the infecting organism.

Autogenous vaccines I have employed in six cases, but in every case they have been given in addition to alkalies, and they have not appeared to yield better results than in those treated by alkalies alone. In chronic cases in which alkalies have failed they have, in my experience, proved of no value: they do not prevent exacerbations, nor do they cause a diminution of pus-cells or organisms in the urine.

Williams, Murray and Wallace have reported cases in which they gave relief to symptoms, and Lyman believes they are of great value, but admits that many cases do not improve more quickly than others without. H. D. Rolleston also reports favourably of them, and Dick believes that cases which do not respond to alkaline treatment are sometimes benefited by their use.

Of serum therapy I have had no experience, but Box and Dudgeon have given anti *Bacillus coli* serum a fair trial but with no permanent improvement. They report, however, that by washing out the bladder with the serum they obtained a marked temporary diminution in the number of bacilli.

Conclusions.—(1) Pyelitis and cystitis are much more common in infancy and early childhood than is generally supposed. Mysterious febrile attacks, especially in females, should therefore not be attributed to dentition or gastro-intestinal indigestion until a careful examination of the urine for pus-cells and organisms has been made.

(2) The infection may be an ascending one owing to direct infection with fæces through the urethra, or it may be a descending one owing to the direct passage of the organisms from the bowel to the kidney, or lastly, and in rare cases, the infection may be carried by the blood-stream.

(3) The most satisfactory treatment is that by alkalies. In cases which do not respond to this method, urinary antiseptics, after first rendering the urine acid, or autogenous vaccines should be tried.

(4) In spite of all treatment many cases become chronic; in these acute exacerbations alternate with long periods of quiescence, but the urine never becomes entirely free from pus-cells and organisms.

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REMARKS ON SOME FATAL CASES OF ECZEMA IN CHILDREN.*

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THIS little paper is offered to the Section for the Study of Disease in Children, not because it professes to throw any particular light on the subject dealt with, nor because it embodies any research worthy of the name, but because it deals with what is, I believe, rather a rare occurrence, and because I hope it may elicit from the learned medical men gathered here to-day some light on catastrophes which have puzzled me personally very much.

* A paper read at the Provincial Meeting of the Section for the Study of Disease in Children of the Royal Society of Medicine, at Northampton, on June the 21st, 1913.

I have been a physician to the Northampton General Hospital for the last twelve years, and I find on looking through my notes of the cases treated in the children's ward that I have admitted and treated in that ward 28 cases of eczema, and that no less than 6 of them have ended fatally.

Such a proportion of unfortunate results may be regarded as particularly unlucky or particularly fortunate and interesting according to the light in which they are taken, but at any rate they distressed me very much at the time, and I could see no adequate reason for their occurrence.

It may be well, therefore, to give in very brief detail the five fatal cases on which I have notes. The notes of the sixth have unfortunately been lost.

(1) F. C—, male, aged 7 months, admitted May the 8th, 1904, with chronic moist eczema of the head and face; had had eczema since he was fourteen days old. Treated with lotio plumbi and unguentum plumbi carbonatis.

Began to seem very ill on May the 9th, and died on May the 11th, with temperature rising to 103° F.

(2) M. B—, female, aged 6 months. Admitted October the 22nd, 1904; she had had eczema for the last five months. It began behind the ears and then spread acutely on to the head and face. It is also present on the nates.

On the second day after admission the temperature rose to 104° F. and then rapidly fell to normal. The patient was treated with liquor plumbi subacetatis diluti.

She made rapid improvement and seemed in a fair way of complete recovery, when she suddenly became extremely pale and collapsed and died in the course of a few hours on November the 4th, 1904.

(3) D. H—, female, aged 6 months. Admitted April the 29th, 1905. Chronic moist eczema of the head and face since five weeks old. She had bronchitis and pneumonia when three months old.

The child looked very ill, cried a lot and did not feed well.

On admission the temperature was 105° F., but dropped the same day to normal and remained at that level till May the 29th and 30th, when it rose to 100° F. and then 101° F.

The child was treated with liquor plumbi subacetatis diluti and then calaminæ præparatæ ʒj and unguentum zinci benzoati to ʒ j.

May the 28th.—Eczema quite dry and beginning to disappear.

May the 30th.—Eczema gone. The patient suddenly became very ill, pale and collapsed, and had twitchings of the right arm and leg.

May the 31st.—The pulse became weaker and weaker. There

was general twitching, unconsciousness and slight convulsions, and the patient died without regaining consciousness.

(4) G. E. S—, male, aged 6 months. Admitted May the 2nd, 1907, with chronic moist eczema of the face, scalp and right arm. Had bronchitis when two months old. He was treated with calaminæ præparatæ ʒj, unguentum zinci benzoati ad ℥j.

The eczema slightly improved, but on May the 14th he was seized with diarrhœa and vomiting and sank and died on May the 15th.

(5) M. G—, female, aged 1 month.

Admitted with a universal acute eczema on November the 15th, 1910.

She was treated with tinct. lavandulæ ♏xv, emplastri plumbi, olei olivæ āā partes æquales ad ℥j.

The temperature was 102·8° F. on admission and fell to subnormal before death, which occurred in a state of collapse on November the 18th.

I am sorry to have to confess that in not one of these cases was I able to obtain a post-mortem examination.

Regrettable though this is, I am inclined to think, however, that in all probability an examination would have thrown very little light on the cause of death.

Of the five cases recorded, the second and third in the series seem to me much the most interesting from the point of view of discussion.

The first and the fifth cases were in the hospital such a short time that not much can be said about them, and of the fourth case it might be said that the diarrhœa and vomiting, which came on just before and apparently caused the fatal issue, were intercurrent affections and quite enough in themselves to carry off a weakly child.

The second and third cases, however, seem to me extremely interesting.

In the second case the recovery from the eczema was rather unusually rapid, and all seemed to be going on to a completely successful issue, when without any warning all the phenomena of shock with collapse developed and the patient died in the course of a few hours.

In the third case the recovery from the eczema was much more gradual, but on recovery the same symptoms supervened, though the fatal issue was not quite so rapid and was accompanied with symptoms of cerebral irritation.

To my mind it is very difficult to find any adequate theory to account for death in such cases, and from the small search I have

been able to make in the comparatively slight allusions to this matter in medical literature, little light is thrown on the subject.

Dr. Leonard Guthrie,* Dr. Pernet and Mr. Arthur Edmunds allude to such deaths occurring in cases of skin lesions.

Dr. Guthrie alluded to it more especially in cases of syphilis, but asked whether members of the Society had met with such deaths in cases of chronic eczema of long standing, which had been followed by rapid healing, and then sudden and unexpected death.

He mentioned a case in a child, aged 2 years, which had been treated with such success that in ten days the eruption was nearly gone. The improvement was so remarkable that the matron drew the mother's attention to it, and the mother remarked, "I feel sure you are curing that too quickly." The next day the child had symptoms of gastro-enteritis and died.

He also mentioned a case of ringworm of the scalp which was treated too vigorously by the mother with an ointment containing cantharides and red oxide of mercury. The child died in twenty-four hours.

In the case of eczema the post-mortem examination showed a marked condition of congestion in almost the whole gastro-intestinal tract; Peyer's patches were raised above the surface and dark red in colour, and the mucous membrane was swollen and inflamed and marked by areas of injected arborising vessels.

In the case of ringworm only hyperæmia of the brain and congestion of the kidneys were found.

He believed that in some instances the death might be due to poisonous applications absorbed through the cutaneous surface, which was denuded of epithelium. But that would not account for all, and he was inclined to think there was some ground for the prevalent belief in the harmfulness of "driving in" an eruption as it was called.

Dr. George Pernet said that in a large experience of syphilitic and eczematous children at the Skin Department of University College Hospital he had never known such an event occur, although they endeavoured to cure the eruption as quickly as possible.

Perhaps the "*status lymphaticus*" might have something to say in the matter.

He had certainly been told by old patients that when their weeping eczema was cured they did not feel so well in general health.

He had felt there might be something in the contention of such

* 'Rep. Soc. Study Dis. Child.,' 1905, v. pp. 136–7. In a discussion on "Cases of Sudden and Unexpected Death in Children."

patients. Perhaps the oozing surfaces gave the inadequate kidneys a rest and helped them in that way.

Mr. Arthur Edmunds mentioned a case of an extensive burn in a girl, in which every time skin grafting was done over too large an area the patient became very ill, with a temperature and a mild attack of septicæmia; he attributed this to the corking up of drainage products. "In the cases of that kind if a limited checking of free discharge could produce septicæmia, it was only a matter of degree for it to be capable of causing death."

Maille ('Semaine Méd.,' 1907, xxvii, p. 255) records two cases of eczema ending in sudden or rapid death.

The first case was a child with extensive eczema and concurrent diarrhœa and enlargement of the liver. The case died in coma accompanied by a subnormal temperature, and post mortem granular and fatty changes were found in the liver with partial necrosis and the kidneys were not healthy. The second case was an infant, aged 8 months, with general eczema which was treated with wet dressings and died in convulsions.

Fatty and granular changes were found in the liver.

Variot ('Gaz. d. Hôp.,' 1906, lxxix, p. 951) in a discussion of infantile eczema, says that all manifestations are preceded or accompanied by digestive trouble, vomiting, diarrhœa, constipation, all pointing to intestinal toxæmia.

He treats the cases with weak remedies, as too rapid a cure may react on the nervous system, causing sudden death with cerebral symptoms.

Dr. J. D. Rolleston tells me that Gaucher, in his lectures at the St. Louis Hospital, used to warn his audience against treating cases of eczema in children too energetically, owing to the possibility of sudden death occurring.

Looking at my own cases I do not think the treatment can have caused sufficient absorption of metallic poisons to cause death.

If that were so, one would expect death to occur while there were still large weeping surfaces, and not when the disease was almost or entirely healed, and, moreover, many other cases have been treated in the same way without death.

Neither do I propose to bring in that blessed phrase "*Status lymphaticus*" as a *deus ex machinâ*.

I am not sure that there is any such thing as *status lymphaticus*, and at any rate there was no special evidence of it in these cases.

It seems to me more likely that these untoward results must be explained by some sort of humoral pathology.

On the one hand one might suggest that the weeping surfaces of the skin were a manifestation of some internal toxæmia finding a vent on the surfaces of the body, and that the healing of the skin forced the poison upon the internal vital centres with fatal effect.

Some obscure analogies of this sort may, I think, be found in certain gouty manifestations. Or, on the other hand, the fatal issue may be due, not to a toxic, but to a physical alteration in the balance of the fluids in the body causing congestion of fluids in the brain and a fatal effect by pressure on the fourth ventricle. However, these are pure hypotheses, and everyone is at liberty to form his own conclusion.

I will only add that I have been so impressed by these catastrophes that I have become accustomed to warn mothers that their children may possibly be better with eczema than without it, and that its cure is not always an unmixed blessing.

ON APPENDICITIS IN CHILDREN.

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The problems of appendicitis in children present many peculiarities, and the subject is becoming of greater importance, owing to the increasing frequency of the disease and the rapidity and severity of the attacks in young subjects.

Most authorities are agreed that appendicitis is much more common in children than formerly, and the statistics of the Liverpool Infirmary for Children bear out this fact. From 1876 to 1891 inclusive, no case of perityphlitis, pericolitis or appendicitis is mentioned in the statistics : during this period, however, one child died of a cerebral abscess which, post mortem, was found to be secondary to a small collection of pus round the appendix, due to perforation of the appendix by a pin. During these sixteen years only one case of non-tuberculous peritonitis is recorded (1891), and between 1884 and 1891 only two cases of fatal unclassified abscess led to fatal results. About 14,000 new cases per annum were seen during this period, a figure which has but slightly increased since. In 1892 one case of iliac abscess with peritonitis is recorded; in 1893 two cases of perityphlitic abscess were cured by operation ; in 1898

two further perityphlitic abscesses were found and cured and the first appendicectomy was performed—with success.

In 1901 there were seven cases of appendicitis; all recovered, three being submitted to operation. From 1902 to 1906 there were twenty-four cases (fourteen operations with one death); in 1907 there were seventeen operations with two deaths, and for the last five years the average has been twenty-four cases a year—the highest figure being thirty-four in 1910–11. The death-rate is high —twenty-three deaths in 160 cases, a mortality of nearly 15 per cent.

The general impression is that the cases are not only increasing in frequency but also in severity: in the earlier days they were treated with fomentations till the abscess pointed and it was then incised—a method which would be attended with very fatal consequences if applied to the cases of the modern type.

In the last two years thirty-four cases of appendicitis in children under fourteen have been under my care; two thirds were boys. There were three cases each at 4, 5, 6 and 7 years of age; four each at 8 and 9, eight at 10 years, and two each at 12, 13 and 14.

Only four cases were interval cases. In one of these who had been operated on six months previously for appendix abscess and had had another slight attack subsequently, it was remarkable how completely the adhesions had been absorbed. Two of the others had had three previous attacks, and a fourth many slight attacks; in one a concretion was found having for its nucleus a piece of coal and some hairs; in two there were marked pericolic membranes and the appendices contained concretions of threadworms. Threadworms are frequently found in the appendix in children in cases of chronic appendicitis; their presence in the organ was noted by Santorini in 1724.

Of the thirty acute cases, fæcal concretions were found in eighteen, in another oxyuris was present; in all the remaining cases the appendix was not removed or was ruptured before operation, so that the absence of concretions in these cases cannot be affirmed. The concretions varied in size and in many cases were obviously of pathological importance. The smallest, barely larger than a pin's head, was found in an acutely inflamed appendix hardly one inch in length; there was a very definite stricture in which the concretion was impacted, and the peripheral end was tensely distended with pus. In other cases the concretions appeared to determine the site of ulceration and gangrene. Concretions were extremely common in these cases, twenty-three of which were primary attacks, being far more common than in appendicitis in adults.

Conditions found at operation.—Of the thirty cases only four were operated on within forty-eight hours of onset,—only four were seen within forty-eight hours of onset—and all lived. Three were already gangrenous; in one the surrounding fluid was sweet and primary closure was performed; in another drainage was deemed necessary, and secondary suture after forty-eight hours from the operation failed. In one the appendix lay anteriorly, and, except for a small portion near the base, it was enveloped by the omentum; omentum and appendix were removed *en masse*, and an abscess containing two drachms of foul pus was found around the appendix; primary closure was performed.

Eleven perforative cases were met with on the third day—two with localised abscess, two with local peritonitis requiring only local drainage, and seven with general purulent peritonitis requiring drainage at two or more points. In only eight was appendicectomy possible. One case died on the sixteenth day.

On the fourth day there were three perforative cases, all with general peritonitis, and all recovered. On the fifth day there were six cases, all perforative: in one there was localised abscess, in two spreading peritonitis, in three general peritonitis. The abscess was so localised in the omentum that it could be excised intact with the appendix and primary closure was obtained. The three general peritonitis cases were all extremely ill and all died.

On the seventh and subsequent days there were six cases; two acute cases without perforation of the appendix and in which primary closure was obtained; one case of localised abscess; one of general purulent peritonitis, and two cases (tenth and twelfth days) in which a localised abscess had ruptured and the general peritoneal cavity was becoming rapidly involved. The case with purulent peritonitis died.

Though small, this series shows the severity of appendicitis in children, and the dangers of delay in diagnosis and operation; in the thirty cases there are only three in which the mischief was still confined to the appendix at the time of operation; there are only five cases of definite localised abscess, though in at least seven more there had been some attempt at localisation. General peritonitis was present in thirteen cases, and in nine others there was spreading peritonitis, fortunately still confined to the iliac fossa.

In the younger children there is apparently less chance of a mild attack: of twelve cases under eight years old all had perforated, in two there was definite localisation, in two more attempts at adhesions.

In 100 cases recorded by Holt, forty terminated in general peritonitis, fifty in abscess, and ten resolved. Kelly says that general peritonitis occurs in 50 per cent. of cases of appendicitis in children.

Results.—Out of the thirty cases only six admitted of primary closure. In two of these the abscess was so localised in the omentum that it could be extirpated without opening; in two there was acute inflammation without gangrene, in one subacute inflammation, and in one the appendix was gangrenous but not perforated.

Five cases died, and in most of these the condition was practically hopeless at the time of operation; it was remarkable how long they survived under the influence of saline injections and stimulants.

Many of the deaths from appendicitis in children are preventable, and will in the future be prevented by earlier recognition of the condition, and by operation in the earliest stages before perforation has occurred. Earlier recognition can only be obtained by a clear realisation of the symptoms.

Symptoms.—In this series of thirty cases *severe abdominal pain* was an early symptom in all save one. *Vomiting* occurred in twenty-five cases—four of the exceptions were cases with retrocæcal appendices; *constipation* was a prominent feature in ten, diarrhœa in six cases. *Pyrexia* was absent on admission in only two cases—in one after a long railway journey, and in the other in spite of generalising peritonitis.

Marked *tenderness and rigidity* over the right iliac fossa were present in twenty-eight cases; in two they were doubtful—one with a peritoneal cavity obviously full of pus, and the second an extremely toxic case, with the child semi-comatose from acetonæmia. *Diminished mobility* of some part of the abdomen on respiration was marked in twenty cases; *abdominal distension*, a sign of ill omen, was present in six cases.

Certain very definite signs and symptoms emerge from this brief summary, and it must be our duty to impress on the public that attacks of abdominal pain and vomiting in children must be regarded more seriously in future—not treated lightly with domestic remedies and a dose of castor-oil. If the child is also feverish it becomes the more important that a doctor be called without delay; should the doctor find any tenderness or rigidity in the right iliac fossa he should at once call in a surgeon with a view to immediate operation.

The following case is most instructive. This parent went to her doctor—for reasons unconnected with the boy—and in the course of

conversation mentioned that this child was not very well. Inquiry elicited the fact that he had had abdominal pain for twenty-four hours and had also vomited; the doctor offered to see the child, though it was 9 p.m. The mother said she thought the illness was not serious, and that she would send the boy up the next morning if not better. The doctor inquired further, and hearing that the boy had been feverish he insisted on seeing him that night; and by midnight a gangrenous appendix, on the point of perforating, had been removed; there was no sign of adhesions, and the general peritoneal cavity would certainly have been infected by morning. The child was home again in nine days.

Special points.—Many other interesting features of the cases may be briefly alluded to. The appendices varied in length from eight inches to less than one inch; in a large number of cases the organ lay in a high position; in one the cæcum still lay close to the gall-bladder, and was so twisted that the base of the appendix lay at the apex of the gall-bladder; the high position can often be diagnosed from the position of the abdominal resistance, or tumour, and the incision adapted accordingly; in these cases the rectus sheath incision was generally utilised, and in some cases it lay entirely above the umbilicus.

In suppurative cases no long search for the appendix is justifiable; rapidity of operation is of the utmost importance, and if the appendix is difficult to isolate, or to find, it is better to be content with simple drainage. Should recurrence take place, or a ventral hernia develop at the site of the drain, the appendix can be removed subsequently with greater safety and often with little difficulty. In eight cases the appendix was left behind, and in several only part of a ruptured appendix was removed; in no case was there cause to regret this procedure, and in one at least of the fatal cases the child might have stood a better chance if it had been adopted.

Ether is the anæsthetic of preference, but in cases with acetonuria, and in some of the most advanced cases of peritonitis, local or spinal anæsthesia offers more hope of a favourable result.

In the after-treatment the Fowler position and saline infusions must be our chief support; as a rule rectal injections of four to six ounces of saline every four hours were used, but in the worst cases continuous subcutaneous infusions are required. In addition to strychnine injections of pituitary extract were found very valuable in combating shock and tiding the bad cases over the critical early days. Feeding must be commenced early in children, especially in the younger ones.

In conclusion I again urge that in view of the frequency—the increasing frequency and severity—of appendicitis in children, we should lose no opportunity of impressing on the public the possible severity of abdominal pain in a child. And I urge on the profession the advisability of early operation—temporising, waiting for an interval, or for more definite signs to develop, may be attended by most serious consequences. Early operation is the treatment of appendicitis in adults; it is even more important in children, in whom fewer cases remain localised to the appendix itself, in whom there is less tendency for adhesions to form, less chance of a localised abscess, and the disease runs a more rapid and severe course.

In all stages of acute appendicitis in children operation should follow immediately on diagnosis; the signs and symptoms may be slight, with very serious conditions in the abdomen, and only surgeons with a very wide experience may, in rare cases, be justified in waiting for convalescence before performing their operation.

DIPHTHERIA OF THE ŒSOPHAGUS.*

By J. D. Rolleston, M.D.,
Assistant Medical Officer, Grove Fever Hospital, London.

A boy, aged 6 years, was admitted to hospital on March the 22nd, 1913, on the fifth day of disease. Death took place within one hour of admission.

Condition on admission.—Profound toxæmia, pulse imperceptible, temperature 99° F.

Palatal and faucial œdema, membrane on tonsils, pillars and palate, considerable neck swelling, oral fœtor and profuse nasal discharge. Slight stridor, croupy cough and recession.

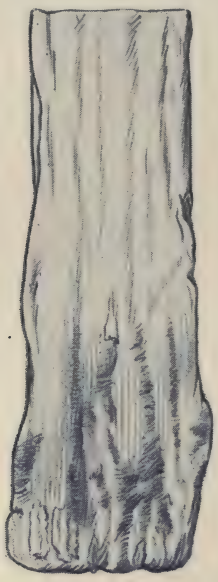
The specimen (*vide* Fig.) shows a normal condition of the upper part of the œsophagus. The lower $1\frac{3}{4}$ in. present longitudinal areas of congestion and submucous hæmorrhages. A small piece of membrane is visible at the upper end of this congested area, and there are larger areas of membrane present at the cardiac end.

Membrane was also found in the fauces and palate, naso-pharynx,

* A specimen of the case was shown before the Section for the Study of Disease in Children of the Royal Society of Medicine on April the 25th, 1913, and is now in the Museum of the Royal College of Surgeons.

larynx and trachea. The stomach was normal. Pure cultures of Klebs-Loeffler bacilli were obtained from the lesions in the throat and œsophagus. The other organs presented nothing worthy of note.

The case illustrates an early stage of the invasion of the œsophagus by diphtheria, and should be compared with that which I reported in October, 1911. In both cases the lesions were confined to the lower end of the œsophagus, and in both there were multiple diphtheritic lesions elsewhere associated with profound toxæmia.



Diphtheria of the œsophagus. (From a drawing by M. E. Waring.)

The first case, however, was in a much later stage, as the membrane in the œsophagus had separated, leaving necrotic areas. Reference should also be made to the striking coloured drawing of diphtheria of the œsophagus in the second edition of Baginsky's monograph.

Probably diphtheria of the œsophagus is not so rare as is generally supposed, although there are details of only twenty-four cases on record, including these two of my own. Fourteen of these occurred in the pre-antitoxin era, and in the rest antitoxin was either not given at all or else too late.

In my last paper I said that it was probable that if a systematic

examination of the œsophagus were made post mortem in every case of diphtheria, membrane would be found more frequently in this situation, and quoted the observations of Mallory, who found definite membrane in the œsophagus in twelve cases, or 4·7 per cent. among 251 necropsies in diphtheria cases.

During the last eighteen months, *i. e.* since I reported my last case, I have examined the œsophagus in ten cases of diphtheria which died in the acute stage, and in two cases, in which the present is included, I have found œsophageal membrane present.

The other case was that of a girl, aged 6 years, admitted to hospital with very severe faucial, nasal and laryngeal diphtheria, on the ninth day of disease. Death occurred within twenty-four hours, in spite of large doses of antitoxin, and, post mortem, the lesions in the fauces, naso-pharynx and larynx were almost identical with those seen in the present case.

In connection with unusual situations of diphtheria in the alimentary tract, it should be noted that while diphtheria of the œsophagus and stomach is usually fatal, four cases of diphtheria of the intestines have recently been recorded, all of which recovered, while only two were followed by paralysis. A few cases of diphtheria of the œsophagus have ended in recovery, but with the development of a stricture. I referred to a certain number of these cases in my last paper, and since then another case has been reported by Réthi.

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CASE OF HYPER-ACTIVITY OF ANTERIOR LOBE COMBINED WITH DEFICIENT ACTION OF POSTERIOR LOBE.*

By E. CECIL WILLIAMS, M.B.,
Physician to the Royal Hospital for Sick Children, Bristol.

BOY, aged 13 years 8 months.

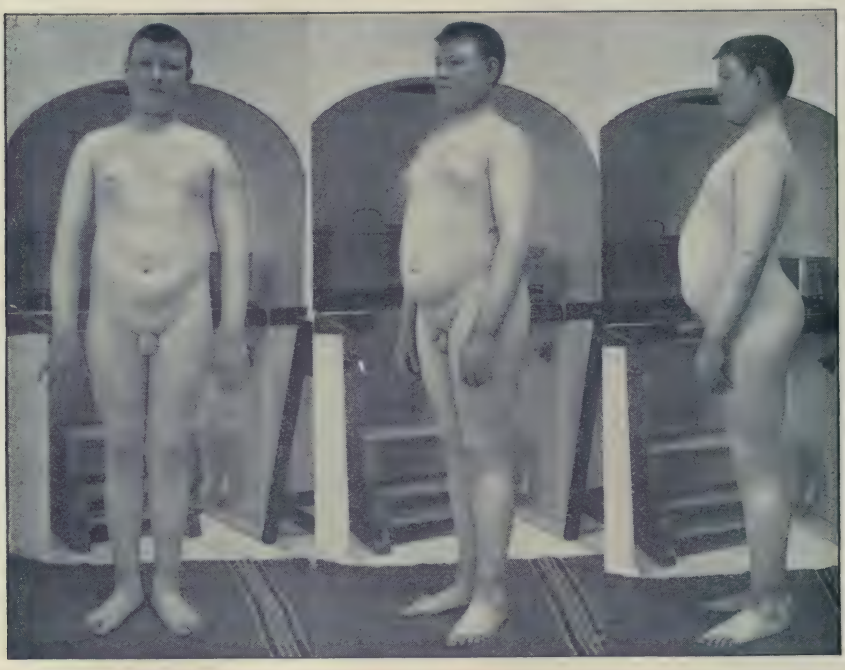
Family history: Paternal grandfather said to have been a very big man.

* This case was reported at a combined meeting of the Sections of Neurology and Ophthalmology of the Royal Society of Medicine on March the 5th, 1913.

Previous health good.

Present illness: Excessive growth began at nine years of age with increase in height and stature, and in addition adiposity of the typus femininus. Viewed in profile, lumbar lordosis is marked.

Present state: Is intelligent and active. Height 5 ft. 2 in., weight 10 st. 7 lb. Circumference of head 22¼ in. Chest measurement 35½ in. Umbilical measurement 35 in. X rays show large size of the hands, and tufting of the terminal phalanges. Skiagram of the skull is not clear enough to enable one to say anything



definite as to the size of the sella turcica. The extremities tend to be cold and blue. Blood-pressure 115 mm. Hg. Genitals not well developed; no pubic hair. There are no local signs—no headache; vision and fundi are normal.

Glandular symptoms: Increase in stature (anterior lobe activity) and adiposity (posterior lobe defect). Sugar tolerance not estimated. Boy has no liking for sweet things.

Note.—He has increased one inch in height during the last two months, and there is a very slight loss of weight.

Royal Society of Medicine.

SURGICAL SECTION.

May the 6th, 1913.

Excision of the Spleen for Splenic Anæmia.—Mr. Jonathan Hutchinson.—A boy, aged 7 years, admitted to hospital for lobar pneumonia, was found to have a large and tender spleen. He had always been delicate, while the rest of the family of seven children were healthy. Four years later he was admitted again with splenic anæmia, the spleen reaching to the umbilicus. Temperature normal. Blood examination: Red cells 2,750,000; hæmoglobin 45 per cent.; white cells 3400. He was admitted again seven months later as he had been getting steadily worse and hæmatemeses had occurred. There was now constant pyrexia. The red cells were now 2,100,000 and the hæmoglobin only 30 per cent.; the white cells numbered 3800, of which 63·5 per cent. were polymorphonuclears and 23·5 per cent. small lymphocytes. Drowsiness was marked. After consultation with Dr. Kidd and Dr. R. Hutchison the spleen was removed. It showed general hypertrophy without any signs of inflammation. Rapid and complete recovery took place. Two months after the operation the red cells numbered nearly 5,000,000, the hæmoglobin was 65 per cent. and the white cells were 9400. A year after the operation the boy was in excellent health.

Sir John Bland Sutton said that in 1895 he had removed a big spleen from a girl aged 5 years for splenomegaly with anæmia. She was now aged 23 years and was a healthy, attractive woman, working as a compositor.

Mr. F. F. Burghard and Dr. G. A. Sutherland reported the after-history of two cases of splenic anæmia (*v.* British Journal of Children's Diseases, 1911, viii, *p.* 73). (1) Woman, aged 20 years, whose spleen had been removed seven years ago. She had no symptoms referable to the absence of the spleen, and was a well-grown and well-nourished girl who had been in service for some years. Blood examination, May, 1913: Red cells, 4,740,000; white cells, 7000; hæmoglobin, 98 per cent.; colour index, 1; poikilocytes, 0; nucleated red cells, 0. Differential count: Polymorphonuclears, 76·5; small lymphocytes, 19·0; large lymphocytes, 2·75; hyaline and transitionals, 1·0; eosinophiles, 0·25; mast-cells, 0·5. (2) Girl, aged 9½ years, whose spleen had been removed three years ago. She was well grown and in good health. Blood examination, May, 1913: Red cells, 4,510,000; white cells, 12,500; hæmoglobin, 88 per cent.; colour index, 0·98; poikilocytes, 0; nucleated red cells, 0. Differential count: Polymorphonuclears, 41·5; small lymphocytes, 38·75; large lymphocytes, 12·25; hyaline and transitional, 2·75; eosinophiles, 4·25; mast-cells, 0·5. The superficial lymph-glands were not enlarged.

Mr. G. H. Makins showed a girl, aged 9 years, whose spleen had been removed fifteen months previously for splenic anæmia. She had had subcutaneous hæmorrhages and copious hæmatemeses. Two days after the operation the number of leucocytes, which had never exceeded 3000, rose to 43,000 per cubic millimetre, and then slowly fell, 12,000 being reached by the seventh day.

A Case of Lieno-testicular Band or Ligament.—Mr. J. Hutchinson operated on a boy, aged 12 years, for a left hydrocele which seemed to communicate with the peritoneal cavity, but could not be emptied into it. The hydrocele was bilocular, and when it was opened a firm rounded band was found attached to the body of the testis, which was atrophic. The band was moniliform, the nodules being of a purple colour, and the rest of the band white and elastic. Traction on it proved that it passed upwards the whole length of the inguinal canal, and after incision had been made through the left linea semilunaris, it was traced up to the left pouch of the diaphragm, and ended at the hilum of the spleen, being about 12 inches in length. The band and testis were then removed. The wounds were then closed and a radical cure obtained. Section of the purple nodules showed that they were splenic in origin. The case is probably unique.

OTOLOGICAL SECTION.

May the 16th, 1913.

Unilateral Deformity of the Ear.—Dr. E. A. Peters showed a child who had been born with a deformed ear. The helix and antihelix were fused and small. The tragus and antitragus were relatively diminished in size, and the cartilage was flat, small, with definite edges. There was no evidence of muscle, and the external auditory meatus was represented by a shallow pit. The internal ear was normal. No maternal impression had been assigned by the mother, as in the case reported by Melland in the British Journal of Children's Diseases, 1908, v, *p.* 481.

Unilateral Deformity of the Auricle, Meatus and Middle Ear.—Mr. E. D. Davis showed a specimen from a child aged 8 months, who had died of enteritis and convulsions. There was no family history of deformities. The auricle was undeveloped, and no signs of cartilaginous or bony meatus existed, but a blood-vessel filled the position of the meatus. The middle ear was filled by gelatinous embryonic tissue in which the fairly developed malleus and incus were imbedded. The auditory nerve and brain appeared normal.

Occlusion of Meatus and Middle Ear by Bone following Operation for Acute Mastoiditis and Extradural Abscess.—Dr. H. J. Davis.—A boy, aged 10 years, was operated on twice for extensive mastoid disease in October, 1912. At the present time not only was the large bone-cavity filled in, but the process of new bone formation had extended, and the mastoid, middle ear and meatus had been converted into a mass of solid bone.

Congenital Prominent Auricles treated by Operation.—Dr. J. Dundas Grant and Dr. Dan McKenzie showed a boy, aged 10 years, whom they had operated on three years previously. In the left ear (Dr. Grant) the skin of the posterior surface of the auricle and of the adjoining portion of the mastoid region had been removed and also a slip of the auricular cartilage. In the right ear (Dr. McKenzie) the skin surface only had been treated. Satisfactory results had been obtained on both sides.

Dr. Dan McKenzie also showed photographs of a girl whom he had operated on for the same condition at the age of four with satisfactory results.

Thrombo-phlebitis of the Mastoid Emissary Vein.—Dr. Dan McKenzie.—In an operation for mastoid abscess on a boy, aged 8 years, an unusually large mastoid emissary vein was cut and bled freely. Three days after the operation the temperature rose to 102·2° F. The wound was re-opened and the vein was slit up when it was found to contain a clot ¼ in. long. The lateral sinus was healthy. Thirty-six hours later the temperature fell to normal and remained so.

Congenital Syphilitic Deafness Treated by Neo-salvarsan.—Mr. J. F. O'Malley showed a girl, aged 10 years, who had been deaf in both ears for twelve months. The ordinary stigmata of syphilis were absent, but Wassermann's reaction was positive. After three doses of neo-salvarsan the hearing was much improved. Mercury was not given.

Phlebitis without Thrombosis of Sigmoid Sinus.—Mr. A. Cheatle. —A child, aged 1 year and 11 months, was operated on for acute mastoid abscess. The sinus wall was greatly thickened by inflammation and its lumen was very small but did not contain any thrombosis.

Recovery took place.

Temporo-sphenoidal Abscess following Mastoid Disease and Aural Polypus.—Dr. H. J. Davis.—A girl, aged 14 years, who had had otorrhœa for four years, was admitted to hospital with vomiting, vertigo and facial paralysis. A large polypus which was protruding from the meatus was removed and the mastoid antrum was opened; the antrum was eroded and an extradural abscess was evacuated. The brain protruded into the wound but did not pulsate; the temporo-sphenoidal lobe was therefore incised and three drachms of pus evacuated. Recovery took place.

Philadelphia Pediatric Society.

May the 13th, 1913, Theodore Le Boutillier, M.D., President.

Spasmus Nutans.—Dr. Howard Kennedy Hill showed two cases of spasmus nutans, each with nystagmus and head-nodding both from side to side and forward and backward. In each instance the baby lived in a very dark room, where sunlight rarely, if ever, penetrated. There were some signs of rachitis, but not at all marked. Dr. Hill referred to his paper upon this subject, read before the Society (*v.* British Journal of Children's Diseases, 1910, vii, *p.* 321).

Pyloric Stenosis.—Dr. C. Henry Lefece presented an infant with pyloric stenosis. Birth was instrumental, and the baby was breast-fed

three weeks, with constipation and belching. Bottle-feedings were added three times daily. Projectile vomiting followed almost every feeding up to seven weeks, in spite of various formulæ and methods employed. When Dr. Lefece first saw the baby, at seven weeks, it appeared to be *in extremis* and hospital care was refused. He improved upon hypodermoclysis and enteroclysis, small quantities of diluted whey hourly and olive oil inunctions. Tumour formation and gastric peristalsis were noted during digestion and persisted; vomiting ceased and constipation diminished. The food was gradually increased, and the boy now takes an ounce of a fairly rich cream and whey mixture. Enteroclysis by the drop method is still employed twice a week. Mercurial oil inunctions are used daily. He is now five months old and weighs 9 lb. 3 oz. Gastric peristalsis and tumour formation are not so marked. There is no vomiting, and there are two light yellow stools daily. Although no Wassermann's reaction was made, and no specific history obtained, the marked improvement after the mercurial inunctions is very significant.

Dr. J. P. Crozer Griffith said that Dr. Lefece was to be congratulated on the outcome of this case. It is true that the regular fæcal discharges showed the pyloric stenosis not to be complete. It is very important to distinguish, if possible, between cases of stenosis dependent upon hypertrophic changes and those which may be called pylorospasm. Earlier German and English statistics showed a very encouraging percentage of recovery in cases called "stenosis" without operation. Undoubtedly, in most of these cases the narrowing depended on spasm only. Dr. Griffith's experience has been that to distinguish between these two forms clinically has not as a rule been possible. The character of the vomiting, peristaltic movements of the stomach and the absence of fœcal discharges are the same in each. Discovery of a distinct tumour on palpation is strongly in favour of hypertrophic stenosis, but in most cases this tumour cannot be found, even though an anæsthetic be employed. Experience has taught him that it is not safe to make the absence of fæcal movements the test of the presence of stenosis. He has seen cases gradually grow worse, and finally be operated upon too late for benefit, the delay depending solely on the fact that the baby discharged fæces; while in other cases of stenosis—absolute for days, or even longer—final complete recovery has taken place, the case certainly being pylorospasm. The conditions may often be combined, a certain degree of hypertrophic stenosis made worse or better at intervals by the presence or absence of pylorospasm. The diagnosis is of the utmost importance inasmuch as pure pylorospasm can be safely treated by lavage and expectant measures at least for a time, while the earlier the hypertrophic stenosis is operated upon, the greater are the chances of recovery.

Dr. Levi J. Hammond said that he had operated upon four cases of congenital hypertrophic stenosis of the pylorus, all accompanied with classical symptoms. Two had been performed upon infants of the same parents. Obstruction was complete, in one at 42 and in the other at 60 days of age. In view of the pathologic findings of true hypertrophic changes at operation, radical treatment would seem alone indicated, and unless posterior gastro-enterostomy, the operation of choice, be performed before medical treatment has proved valueless, the former cannot contribute its full measure of service, resulting in a high mortality. Mortality should not exceed 5 per cent. if diagnosis is made early and operation promptly performed. The patients referred to all recovered; the oldest is now almost four years old.

Renal Calculi in Children.—Dr. J. Stewart Rodman reported a case of bilateral calculus in a boy, aged 12 years, who had meningitis when eight years old. Hæmaturia had existed for five months. X rays showed stone in right kidney and three stones in the left kidney. The right was operated upon February the 11th, 1911, and the left November the 12th, 1911. Nephrotomy was performed at both operations and the stones found. Recovery was prompt after the first, stormy after the second operation, due to suppression of urine for forty-eight hours. The stones were uric acid. The boy was present, showing his good health. While bladder stones are common, recent literature shows renal calculus to be rare. It is more frequent in boys and in the first decade; more often found abroad than in America. There is great diversity of opinion as to actual ætiology. Ebert considers uric acid infarcts so common as to be almost physiologic. Calcium contents of water and gastro-intestinal disturbances are important contributing causes. Primary stone does little damage to kidney tissue, although secondary stones, the product of infection, are always accompanied by grave renal changes. The absence of typical renal colic in nearly all case reports is worthy of mention. Hæmaturia is a frequent symptom. Urate stones are most frequent. Cystin and xanthin stones are almost never found in children. Renewed importance must be attached to post-operative treatment, since stones may re-form. The known solvent properties of the kidney must be aided.

Dr. Alexander Randall spoke of the many interesting points in bilateral renal calculus. The condition is not recognised in many cases until the child has grown to adult age, unless some outward sign, as hæmaturia, develops; the X rays usually make the diagnosis. All stones do not, however, give shadows, as, for instance, urate stones. Nor are all shadows stones, for they may mean tuberculous foci. The location of the stone by the interpretation of the X-ray plate is valuable pre-operative information. While cystoscopy has not been much used in children, Dr. Randall has used it, with catheterisation of the ureters, for the performance of the phthalein functional test in two girls of 3 years, one of 9 years, and an infant of 26 months. It is best to operate upon the better kidney first. After removing the stone by pyelotomy, copious lavage, using about a pint, is advised of the area wherein the stone lies. A ureteral catheter should also be passed down to the bladder before the wound is closed.

The Treatment of Tuberculous Adenitis.—Dr. John H. Jopson discussed some fallacies in the treatment of tuberculous adenitis. He said that there appeared a tendency on the part of some surgeons at present to recede from the former attitude in regard to the surgical treatment of tuberculous adenitis and to substitute conservative measures for extensive operative procedures. The simple incision and curetting of broken-down glands in conjunction with hygienic measures was recommended by some, while the X rays, tuberculin therapy and Bier's hyperæmic treatment had their advocates. It seemed to him that the extravagant claims of the upholders of the X rays were unwarranted or founded upon insufficient data, and that, when they condemned the results of operative treatment as unsatisfactory, they ignored the work of men like Dowd and others. The studies of long series of cases by Dowd, Wohlgemuth and Van Noorden had shown that cures in children could be obtained by radical treatment in from 70 to 90 per cent. of cases, while the 649 cases reported by Judd in Rochester, mostly in adults, also gave splendid end-results. A study of the path-

ology of the condition shows that the infection, which found entrance through the tonsils, the teeth and the mucous linings of the buccal and pharyngeal cavities, lodged primarily after passing these portals in the lymphatic glands in the upper portion of the neck, and passed from them into the deeper chain along the great vessels. There was more tendency to spontaneous limitation in children than in adults, but in neither case was there communication with the bronchial or mediastinal glands. The tedious nature of the operation made it one which did not appeal to all surgeons. The X-rays, as shown by Pancoast and others, were useful as an adjuvant to surgical treatment, but could not replace it, while tuberculin therapy was protracted, expensive, and contra-indicated where advanced caseation and liquefaction necrosis were present.

Dr. E. B. Hodge said that the bacteriology of the condition is interesting. Dr. Paul A. Lewis had found that about 25 per cent. of cases show bovine tubercle bacilli. The tonsils and adenoids, which seem to be the usual portal of entrance of the tubercle bacillus, are not removed as regularly as should be the case. Operation, if thorough, is successful. While often difficult, it results in a perfect cure. Dr. Hodge agrees with Dr. Jopson; his results with the X rays and with tuberculin have not been good. The modern operation is systematic, complete, and with its incisions in the neck-folds, leaves little or no scarring.

Dr. G. M. Dorrance said that operations upon the neck are the most satisfactory as they require some anatomical knowledge. After a number of failures, he was induced to try the X rays in glands of the neck upon patients who refused operation, and was agreeably suprised at the results obtained. Since then he has not operated unless the masses were exceptionally large, and followed this by a series of X ray exposures. The reason for the number of operations is that cases recur and are re-operated upon either by the same or some other surgeon. Latest French text-books recommend the X-ray treatment rather than operation, since this leaves little or no scar. It is important to prevent glandular involvement, which can be done by attention to the teeth and tonsils. The primary source of the infection should be removed. Caseous material is often found in tonsils; Dr. Dorrance always has them removed. With removal of the primary source many cases will recover spontaneously. Besides, there is a certain operative mortality from ether, hæmorrhage, etc. It is not advisable to give ether, since many cases have tuberculous foci elsewhere. He believes Dr. Jopson's statment that 30 per cent. of cases die from tuberculosis.

Dr. Jopson stated that he was always in the habit of recommending the removal of enlarged and diseased tonsils and adenoids in these cases. He had frequently seen them removed before operation for glands was undertaken, but believed that only exceptionally could operation be avoided thereby. Nevertheless in every case the portal of entrance of the tuberculous germs should be the subject of careful study and treatment. If, as Dr. Dorrance says, 80 per cent. of these cases recover after removal of tonsils and without adenectomy, then the total number must be enormous. We see these cases in all stages of caseation and suppuration where removal of the tonsils could not possibly result in cure, and one can easily see by consulting the daily list of operations, now being published by the bulletin of surgical clinics, that operations for cervical adenitis constitute a large proportion of the cases operated in every clinic. The operation cannot, therefore, be said to be considered an unsatisfactory one by the majority of surgeons or one which can be avoided by simple removal of adenoids and tonsils. The

incision he prefers in these cases is the oblique one which follows the natural creases of the neck, leaving a relatively small scar, and one that does not as a rule hypertrophy or stretch afterwards.

What can be done to prevent Milk-poisoning?—Dr. William N. Bradley said that hundreds of babies die every year from diarrhœal diseases, largely due to milk-poisoning. The cause of milk-poisoning is the existence of pathogenic bacteria in milk. They are present in ordinary market milk in large numbers, due to unsanitary conditions surrounding the production and handling of milk. It is probable that milk is primarily infected at the farm, where very little thought is given to producing a clean milk; and throughout successive stages of transportation the milk is repeatedly exposed to sources of contamination. This is possible because of lack of adequate official supervision. While the Board of Health prescribes regulations, lack of funds prevents their enforcement. Such a contaminated product is unsafe and unfit for use. Our only protection against infected milk lies in pasteurisation. Schorer and Rosenau state that when milk is heated to 140° F. and kept there twenty minutes, tubercle, typhoid and diphtheria bacilli as well as all bacterial toxins are destroyed. As it is practically impossible to obtain milk free from infection, all milk should be properly pasteurised. Since any irregularity or any variation of temperature or time will render the process inefficient, it is obvious that all pasteurising plants should receive expert official supervision. Regular instruction and training of the operators of pasteurising plants would do much to further efficient pasteurisation. But pasteurised milk is only a makeshift for clean milk. The vast sums of money used in equipping and maintaining pasteurising plants could be expended to much better purpose in producing clean milk, prepared by careful attention to all details of production and proper protection from contamination in all stages of handling. To this end the American Association of Medical Milk Commissions has prescribed regulations governing the production of "certified milk." Only milk produced under such conditions is safe and fit for use.

Dr. Hand said that we can prevent milk-poisoning by putting no milk into the baby's bottle that can poison the baby. Even clean milk may be spoiled before it reaches the infant. Efficient pasteurisation is necessary during the summer. He had noticed in three hot summers that when the temperature hovered around 100° F., there was not a great increase in the incidence of entero-colitis as shown by the work in the dispensaries and by vital statistics, and he could not explain this until it was suggested to him by Dr. Weber that the big milk dealers probably took extra precautions in pasteurising, and so actually sterilised most of the milk served to the city.

Blood-pressure in Infancy.—Dr. Hill, after reviewing the literature upon blood-pressure in young children and infants, reported the findings in twenty-five babies under two years of age, suffering with severe gastro-enteritis, treated at the Babies' Hospital of Philadelphia. The conclusions drawn, although there were exceptions, were that the blood-pressure was rather higher than in normal babies, with a mean between the systolic and diastolic pressure which, when large, gave rather a poor prognosis.

Dr. Percival Nicholson said at present it was almost impossible to obtain any accurate standard readings in normal cases, as different observers have used cuffs of such varying widths. A 12 cm. cuff would give correct readings, but in infants and many children it is not feasible to use a cuff so

wide, as there is not sufficient distance between the articulations on either the arm or thigh to permit its application without the cuff extending over the bony points of the articulation. In recent experiments, he has found marked differences due to variations in the width of the cuffs used. Pulse-pressure or the difference between the systolic (maximum) and the diastolic (minimum) readings is not altered materially by a difference in width of the cuffs, as systolic and diastolic pressure are altered proportionally. Pulse-pressure is especially important in blood-pressure work as it shows clearly the head of flow, and is a good estimate of the extra force the heart is exerting over and above the peripheral resistance, as indicated by the diastolic pressure. As the pulse-pressure becomes smaller the circulation is impaired, and when the difference is small, life is endangered, death ensuing when the systolic and diastolic pressures are equal, or in other words when there is no pulse-pressure. Dr. Nicholson has found it very difficult to obtain readings by the auscultation method, using the thigh and listening over the popliteal artery, as that vessel lies deep and the sounds are hard to hear. At present he uses the arm, auscultating over the brachial artery in children over three years; in young infants he considers the Hoobler modification of the Fette indicator best.

Société de Pédiatrie, Paris.

May the 20th, 1913. (*Bulletin No.* 5.)

Appendicitis in Young Children.—Mme. Nageotte-Wilbouchewitch, speaking on M. Savariaud's communication at the last meeting, laid stress on the use of "vibratory palpation" as a means of ascertaining the tension of the abdominal muscles. A muscle which would give way to steady gentle pressure remained rigid under this method. Sudden flushing of the face provoked by touching the affected region was also a valuable sign. M. Ombrédanne described a chronic form met with in children who had evening rise of temperature, gastric attacks, emaciation, and paroxysmal headaches; this condition was cured by operation, the appendix being found displaced by a short or tortuous meso-cæcum, or sclerosed with impervious lumen, or with hard grey glandular nodules. He was of opinion that in acute cases the mortality would be reduced to zero if operation were performed within thirty-six hours.

Congenital Aphasia without Motor, Sensory or Intellectual Disturbance.—M. Variot showed a boy, aged 6 years, who apparently understood what was said to him but had never spoken since birth, being merely able to repeat a few words in a scanning, explosive fashion.

Abbott's Method of Treating Scoliosis.—MM. Calvé and Lamy showed some cases, of which woodcuts are given in the 'Bulletin,' treated successfully by this method.

Congenital Dislocation of the Hip reduced at the age of 20 months.—M. Lance reported this case of a girl who died four months

after the reduction and showed the specimen, of which there are woodcuts in the 'Bulletin.' The specimen showed that the acetabulum was sufficiently deep at the age of two years to enclose almost the whole of the head of the femur, and that this was due for the most part to a cartilaginous acetabular projection. These observations gave encouragement to attempt reduction as soon as possible, the functional results being better than those obtained by waiting till a more advanced age.

Purulent Pneumococcal Pleurisy of the Right Apex.—MM. Nobécourt and Saint-Girons reported the case of an infant of 14 months, who developed a high temperature during convalescence from measles. There was absolute dulness at the right apex with auscultatory signs of pulmonary compression. In spite of negative exploratory punctures the intensity and persistence of the dulness pointed to pleurisy. Radioscopy confirmed this diagnosis and subsequent puncture withdrew pus; rapid recovery ensued.

Intestinal and Mesenteric Tuberculosis without Thoracic Lesions.—MM. Triboulet and Debré reported the case of an apparently healthy infant who died at the age of 23 months of broncho-pneumonia following measles. The abdominal lesions were intestinal ulceration and caseous mesenteric glands, which had been latent since birth.

The Sun-cure in Infantile Tuberculosis.—M. d'Œlsnitz, of Nice, read a paper calling attention to unfavourable results sometimes observed with this method.

Transmission of Tuberculosis from the Mother to the Fœtus.—MM. Henri Dufour and J. Thiers reported a case of a young woman, aged 19 years, who died of hæmoptysis and meningitis when more than three months pregnant. The abdomen of the fœtus contained fluid; macroscopically the placenta seemed healthy, bacteriological experiments giving negative results, but inoculations from the peritoneal fluid produced tuberculosis.

Vincent Dickinson.

Abstracts from Current Literature.

Medicine.

Post-natal causes of infant mortality (*'Amer. Journ. Obst.,'* 1912, lxvi, *p.* 1063).—**J. T. Wall** states that although the population of Columbia has increased from 160,000 in 1875 to 354,019 in 1911, the infantile death-roll is reduced from 1500 to 1000, and the percentage relation of infant deaths to births from 32·77 to 15·12. The infantile death-rates to births are then compared, Russia and Austria being in the most unfavourable, Norway in the most favourable position. Among towns Amsterdam is the most healthy for infants, and Moscow and St. Petersburg the most deadly. The most remarkable decrease is in Amsterdam, where the infant mortality has declined from 24·5 to 8 per 100 births. Referring to specific causes of death among infants, the author notes that the respiratory group

has decreased during the last quinquennium, owing to the advent of the fresh-air doctrine. The mortality from whooping-cough still remains unchanged, in striking contrast to diphtheria. The mortality among the negro infants, who form over one third of the baby population, is frightful, due to ignorance and laziness of the parents, and the liability of this race to rickets and marasmus. The relation of infantile mortality to poverty is demonstrated by Levy's figures: in families with incomes of 5 dollars or less, the death-rate was 236; with those of 6–10 dollars, 124; with those of 15 dollars and over, only 65. CHRISTOPHER ROLLESTON.

The reduction of infant mortality in New York City (*'Amer. Journ. Dis. Child.,'* 1913, v, *p.* 151).—**S. Josephine Baker** states that fluctuation in the rate of infant mortality is a natural phenomenon independent of preventive agencies—a fact to be borne in mind by public health authorities. Up till 1908 the health authority only combated this scourge intermittently, but in that year a division of child hygiene was inaugurated, one of its functions being the prevention of infant deaths, and by its agency the rate diminished 26 points in three years. In 1911 a voluntary society started 38 milk stations, with one physician to every establishment in summer and to every three in winter. A staff of 200 nurses was also engaged. In spite of unfavourable weather there were 1182 fewer deaths than in 1910. Educational propaganda was effected by 239 leagues meeting weekly and instructing young girls in the methods of baby feeding and hygiene. In 1912 these voluntary milk stations were replaced by 40 municipal institutions, and 150 voluntary associations were federated under one central office with various sub-committees. The milk station sub-committee has decided on the locality of each milk depôt; the hospital and dispensary sub-committee keeps a list of empty beds in hospitals and dispensaries to which ailing babies from the stations can be referred; an outing sub-committee arranges for jaunts to the country, and satisfactory arrangements are made by telephone for supplying emergency cases with pure milk from the relief agencies, until full investigations can be made into the social condition of the parents. The central office publishes a weekly statement of mortality records, distributes polyglot leaflets, and issues a card guide to the milk stations. 44,000 babies are now under supervision, and in 1912 there were 571 fewer deaths under one year than in 1911, 417 of this number representing the decrease in deaths from diarrhœal diseases. In the four-year-period previous to this campaign the infant death-rate each year showed a numerical increase amounting to a total of 3026 deaths, while since the campaign there has been an actual numerical decrease of 2407, the death-rate falling from 160 to 120, and the diarrhœal death-rate from 48·9 to 30·7. The appalling institutional mortality among the newly born is being combated by boarding out babies in private homes under supervision of visiting physicians and nurses. The author concludes by recommending that the milk stations should become educational centres for prenatal instruction, the encouragement of breast-feeding, and baby hygiene.

CHRISTOPHER ROLLESTON.

Infantile mortality in the Duchy of Baden (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift, p.* 314).—**S. Felsenthal.**—During the last ten years there has been a steady decline in infantile mortality in the Duchy of Baden. Thus the mortality of the legitimate, which in 1900 was 22·0 per cent., in 1910 fell to 15·16 per cent., and that of the illegitimate, which was

33·8 per cent. in 1900, was 21·84 in 1910. The decline in infantile mortality went hand in hand with a fall in the birth-rate. The infantile mortality in the different parts of the Duchy ranged from 7·9 per cent. to 25·1 per cent., being highest in the northern districts where the birth-rate was highest, and there was the highest mortality from tuberculosis. Infantile mortality was less in the towns than in the country, partly because the lowest strata of the working populations could find no homes in the towns and were forced to live in the country, and partly because of the more favourable hygienic conditions of the towns. An enormous percentage of the deaths was due to alimentary disturbances. The paper is illustrated by a number of instructive tables. J. D. Rolleston.

Importance of hospitals for infants and their part in the prevention of infant mortality (*'Cleveland Med. Journ.,'* 1912, xi, *p.* 693).—**L. Emmett Holt**, in an address given as President-elect before the American Association for the study and prevention of infant mortality, discusses the broad line of infant mortality prevention. He emphasises the great importance of hospitals for infants in treating the more severe cases of illness, investigating their causes and educating professional and lay opinions. Reginald Miller.

Milk stations or infant mortality (*'Arch. of Ped.,'* 1913, xxx, *p.* 279).—**L. V. Waldron** quotes the reduction in infantile mortality effected by Gelty at his milk dispensary of 37 per cent. on the figure of past years. In June, 1912, two stations with medical and nursing staff were started, bi-weekly clinics were held, babies were weighed, and mothers lectured on the necessity for breast-feeding and its proper management. Modified milk was sent from these institutions to the homes, nurses visited the families and tended the sick, curative work having to take the place of preventive effort, owing to the ignorance of the parents. 113 healthy and 364 sick babies visited the clinic in four months. Of the latter 32 died. Gain in weight during attendance at the clinic is the almost universal rule, the greatest gain being 5 lb. 9 oz. in nine weeks by a hand-fed baby. Subnormal babies are kept under supervision till healthy, and the recourse to patent foods is thus prevented. From October 1 the nurses have taught parents methods for modification at the home of cow's milk, but previously 514 quarts of milk in 27,270 bottles were sent out from the dispensary. The infantile mortality rate has diminished from 181 to 120 in 1912. In 1907, 303 children under 5 succumbed, and at the same rate in 1912, 399 should have died, but as a matter of fact there were only 280 victims—a saving of 119. In the one year class there was a saving of 72; in the two years old 46 survived. There was concomitant decrease in the number of infectious diseases. The cost of equipment of the two stations was $126·87 and the total maintenance expenditure, including the milk, was $2,214·97.

Christopher Rolleston.

Infant milk depôts (*'Arch. of Ped.,'* 1912, xxix, *p.* 724).—**R. G. Freeman** compares the infantile mortality in various French towns before and after the establishment of milk depôts, and finds in consequence of these institutions a 62 per cent. reduction of the death-rate. Park and Holt found that of seventy infants reared under similar conditions, 20 per cent. died on a diet of condensed milk, 9 per cent. on good boiled milk, but only 2·7 per cent. on the milk depôt product. These results are compared with those in

which educational methods by doctors and nurses alone are ultilised. The latter form of campaign resulted in a diminution of only 15 per cent. as compared with over 60 per cent. by milk depôts.

CHRISTOPHER ROLLESTON.

Statistical comparison of the mortality of breast-fed and bottle-fed infants (*'Amer. Journ. Dis. Child.,'* 1913, v, *p.* 234).—**W. H. Davis** finds that 68 per cent. of all babies in Boston between the ages of 2 weeks and 12 months are breast-fed. Of the deaths between these ages 74 per cent. were among bottle-fed infants. From these facts he concludes that a bottle-fed infant is six times more likely to die than the breast-fed. Other interesting facts are discussed which all tend to emphasise the great superiority of natural over artificial feeding. REGINALD MILLER.

The food requirements of children (*'Brit. Med. Journ.,'* 1913, I, *p.* 603).—**Chalmers Watson** discusses the amounts of protein and fat required by children and he shows how nutritious meals at small cost may be obtained. The essentials to be laid down for such meals are the following: (1) the food must be nourishing and ample in amount; (2) the food must be as cheap as possible consistent with (1); (3) the food must be of a nature that can be readily cooked with the limited facilities in a one- or two-roomed house; (4) in children, satisfactory rate of growth, increased vigour, and more efficient education must be the result. Specimen dietaries are given.

J. ALLAN.

Infant feeding (*'New York Med. Journ.,'* 1912, II, *p.* 993).—**L. Fischer** discusses most profitably some of the curious differences in results in feeding by laboratory milk and home modified milk, and refers to some of the difficulties met with in infant feeding. He emphasises in particular the mistake of trying to apply hard-and-fast rules for every case. His own rules could hardly be bettered: Use common-sense, avoid all fads, study the baby.

REGINALD MILLER.

The caloric requirements of bottle-fed infants (*'Journ. Amer. Med. Assoc.,'* 1912, LIX, *p.* 2306).—**R. H. Dennett** advocates regulating the food of artificially fed infants according to the number of calories required per kilogramme or pound of the body-weight. Tables are given of the caloric equivalents of milk and sugar in various dilutions, and the author finds that the average normal baby does well on 110 to 120 calories per kilogramme. Atrophic infants require food of much greater caloric value—130 to 170 calories according to the emaciation—though if there is a tendency to diarrhœa the higher values should not be given. T. R. WHIPHAM.

Long interval feeding of premature infants (*'Amer. Journ. Dis. Child.,'* 1912, IV, *p.* 391).—**J. C. Litzenberg,** like Czerny and Keller, holds that premature babies do best on long-interval feeding, and records fourteen cases, six of which are from Keller's clinique, in support of his contention. The digestive and other disturbances were less than in the short-interval cases, the increase in weight was as rapid as by any other method, and the infants slept better. The best interval seemed to be four hours.

J. D. ROLLESTON.

Practical points in the management of breast-feeding (*'Arch. of Ped.,'* 1913, XXX, *p.* 164).—**E. Pritchard** holds that in a large proportion

of cases now artificially fed, breast-feeding might be maintained were only this method more carefully studied and taught. He contrasts the amount of ingenuity lavished upon improvements in the artificial method of feeding and the comparative neglect of the study of the natural methods. Artificial methods are easier but by no means better than breast-feeding. He proceeds to deal with some of the details of breast-feeding; the importance of the meconium to the newborn infant, the harm which may accrue upon "careful" cleansing of the mouth, the great value of "test-feeds" for breast-fed infants are dealt with at length. The article concludes with a consideration of the results at "infant consultations" and some of the lessons to be drawn from them. REGINALD MILLER.

Use of polycarbohydrates in the diet of the young infant (*'Amer. Journ. Dis. Child.,'* 1912, iv, *p.* 89).—**J. M. Brady** gives his very favourable experience of feeding 170 babies under three months of age with a food containing various carbohydrates. The mixture is as follows: 1½ oz. by measure of barley flour is cooked in 16 oz. of water at least for 20 minutes down to 10 oz., and added to 20 oz. of skim, sweet or acidified milk. 1½ oz. by measure of cane-sugar and 1 oz. by measure of malted food containing dextrin and maltose are added. The carbohydrate content of the mixture would be represented by lactose 2·66, cane-sugar 1·30, maltose and dextrin 1·70, plus barley 2·25, which is partly dextrinised. This gives a total carbohydrate percentage of 7·91. One litre has a caloric value of 415. Beginning with a fat-free diet, the percentage of fat is gradually raised with the progress of the baby. REGINALD MILLER.

Use of malt sugar and high percentages of casein in infant feeding (*'Amer. Journ. Dis. Child.,'* 1911, ii, *p.* 315).—**J. L. Morse** states that functional weakness of the intestine is the cause of diarrhœa, and depends upon the injurious effects of animal as distinct from human whey. Diarrhœa is kept up and increased by fermentation caused by the milk-sugar of the whey. If the milk-sugar be removed and casein substituted the diarrhœa is controlled. Leopold found that milk-sugar caused diarrhœa most easily, while dextrine-maltose mixtures were well borne. The author precipitated casein from one quart of milk, emulsified it with a pint of water, 3 per cent. of fat and a variable percentage of maltose, and gave it to eight babies with frequent green and offensive stools. He found that the stools quickly resumed their normal appearance, but the babies continued to lose weight. Therefore, as soon as the symptoms have disappeared, a normal diet should immediately be substituted. CHRISTOPHER ROLLESTON.

Protein milk as a corrective of digestive disturbances (*'Amer. Journ. Dis. Child.,'* 1913, v, *p.* 297).—**H. B. Wilcox** and **M. C. Hill** express some very definite opinions on the use and value of the protein milk of Finkelstein and Meyer. They regard it as essentially a therapeutic agent and not suitable for use as a continued diet. It is most suitable in children over three months, and is indicated in most forms of gastric and intestinal indigestion, particularly in acute intestinal infections. It should be made from skimmed milk, used without preliminary starvation, and should be withdrawn partially with the first signs of improvement, being replaced by suitable milk mixtures as fast as the patient's tolerance will admit. In contradiction of Finkelstein's teaching the authors do not regard

it as difficult to pass from protein to ordinary milk, nor do they object to using protein milk in combination with any plain milk mixture.

REGINALD MILLER.

Protein metabolism in infants fed on protein milk (*'Amer. Journ. Dis. Child.,'* 1913, v, *p.* 308).—**B. R. Hoobler** concludes that protein milk is not detrimental, but frequently supplies a sufficient amount to make up for previous protein depletion; that although low in caloric value, there is a retention of sufficient protein to prevent muscle waste even though the child may lose weight. On this diet, the stools contain less volatile, fatty and total acids; soap-formation is increased, less water is lost in the fæces and there is an improved retention of mineral salts. These chemical results may all occur in three or four days, and confirm the clinical observation that protein milk may be quickly discontinued and should be used as a corrective and not as a true food.

REGINALD MILLER.

Researches on albuminous milk (*'Journ. de Méd. de Paris,'* 1912, XXXII, *p.* 496).—**E. Weill and G. Mouriquand.**—German physicians have successively attacked the different chemical ingredients of milk as the cause of infantile gastro-enteritis, some incriminating the fat, others the casein, others the mineral salts. Finkelstein and Meyer consider that the digestive troubles of the infant have always their basis in a functional insufficiency of the intestine, accentuated by fermentation. At the basis of these fermentations are carbohydrates, especially lactose: without carbohydrates no fermentation is possible. Casein cannot ferment in the absence of sugar. Their researches show that milk deprived of lactose has a most remarkable anti-fermentative power and leads rapidly to a cessation of digestive troubles. In order not to lessen the nutritive power of the milk, they replace the lactose by a less fermentable sugar, viz. maltose. This treatment has been tried by the authors on ten infants, with the result that nine died, and in the great majority the treatment accentuated the diarrhœa and vomiting and the weight slowly decreased. It was also tried on six healthy infants, four of whom steadily lost flesh, one remained stationary, and one increased 200 grammes. In most cases the stools became green and three cases suffered from vomiting.

J. PORTER PARKINSON.

Effects of heated and superheated milk on the infant's nutrition (*'Arch. of Ped.,'* 1913, xxx, *p.* 122).—**H. L. Coit** gives a summary of the work of Dr. J. E. Lane-Claypon. The experimental work of Gerlach, Hitcher, Bang, Price and Doan is quoted to prove that no serious loss of nutritive value results by boiling the milk of the same species, that the salt content is of great importance, and in cases of failure with boiled milk the mineral salts should be added. Young animals fed on boiled milk of a suitable species seemed to thrive slightly better than those fed on similar raw milk, but after the experiment no striking difference was noted. In all cases both at and subsequent to the experiment, artificially fed animals were inferior to the breast-fed. Infants do just as well on boiled human milk as on unboiled, according to Thiemich. Finkelstein experimented on infants with boiled and unboiled milk of a foreign species and could detect no difference between the two classes. With regard to the value of human and cow's milk for babies, the following statements are made: (1) breast-fed babies have a higher average weight up to the 180th to the 220th day of life. Subsequently the difference disappears. (2) The difference is most marked in the first sixteen days of life. (3) After the first sixteen days the average

increase in body-weight is almost identical in breast- and bottle-fed. Unfortunately, the question of infantile scurvy receives no consideration in this summary. CHRISTOPHER ROLLESTON.

Boiled *v.* raw milk (*'Journ. Amer. Med. Assoc.,'* 1913, LX, *p.* 575).—**J. Brennemann** finds that raw milk forms large hard curds, whereas boiled milk produces fine soft curds. This occurs not only *in vitro*, but also apparently in the stomach. Experimentally, the writer found that when rennin is added to raw milk in a beaker at a proper temperature the milk quickly forms a dense hard coagulum, which separates rapidly and completely from the whey; whereas boiled milk under the same conditions coagulates slowly, separates less completely, and forms a soft, finely divisible curd, which differs but little from a thick liquid. Clinically, babies fed on raw cow's milk will at times vomit hard, leathery curds of enormous size, and if raw milk is injected by rectum and retained for a time, the next stool will contain typical hard curds. The movements of the stomach do not prevent the formation of large hard curds, as is evident from experiments *in vitro*, when the milk and rennin are constantly stirred or shaken. To determine the changes which ingested milk undergoes in the stomach, the author carried out a series of experiments in a healthy young adult who could promptly and with little effort empty his stomach by passing his finger into the throat. Since all the gastric ferments of the adult are present and active in the baby, it is not unfair to assume that in all probability the same relative reactions take place during early life. These experiments showed that after drinking a quart of milk in about five minutes the curds of raw milk were large and hard, while those of boiled milk were soft and easily divisible masses at the end of half an hour. In the case of pasteurised milk there was complete separation of curd and clear whey as with raw milk, the curds being not so massive but having all the characteristics of raw milk curds. To meet the objection that the infant spends more time over feeding, further experiments were made in which the subject slowly sipped a quart of raw milk in a period of thirty to forty-five minutes. After half an hour curds were either absent or very few in number. If only twenty minutes were occupied in drinking the milk a few fairly large curds were returned. This seems to show that drinking raw milk very slowly favours the formation of a smaller number of curds of such a size that they cannot be returned. Further evidence of this was obtained by sipping raw milk diluted with an equal quantity of water in forty-five minutes, when a large amount of curd was returned indistinguishable from that found after drinking a similar mixture in five minutes; whereas boiled whole milk sipped in the same time produced similar curds to those returned when it was consumed in five minutes. Raw milk diluted freely with water—or with barley-water—yielded small soft curds; while citrated milk (gr. ij—$\bar{3}$j) formed no curds at all. Condensed milk diluted 1:10 formed a fine soft precipitate. In practice the author finds that the hard curds of raw milk in infants' stools disappear when boiled milk is given, that diarrhœa and dyspeptic stools are cured by the change, and that vomiting is relieved. Colic and discomfort are among the most frequent symptoms arising from the use of raw milk and abate when a change is made to boiled or citrated milk, or, what is still more striking, to a condensed milk, either liquid or powdered. Whether improvement is due solely to the difference in coagulation or to some other difference between raw and boiled milk remains to be determined.

T. R. WHIPHAM.

The uses and abuses of proprietary foods in infant feeding (*'Brit. Med. Journ.,'* 1913, I, *p.* 872).—**H. C. Cameron** points out that proprietary foods have a distinct field of utility among a community which is not skilled in the difficult art of cookery for young children. It has to be remembered that most of these foods are composed preponderatingly of carbohydrate of one or other sort, and that therefore they have the drawback that they are liable in those infants whose carbohydrate tolerance is small to produce fermentative dyspepsia, diarrhœa, vomiting, colic and excoriation of the buttocks. He divides the foods into seven groups: (1) condensed milk with a high percentage of added cane-sugar; (2) condensed milk without added sugar; (3) dried milks; (4) dried milks with added malted sugar; (5) pure malted sugar; (6) foods consisting almost entirely of unaltered starch; (7) foods consisting of mixtures of unaltered starch and malted sugar. These are the classes of foods at our disposal, and by an intelligent use of them much can be accomplished. J. Allan.

Relation of the weight curve of the infant to the food (*'Amer. Journ. Obstet.,'* 1913, LXVII, *p.* 601).—**J. M. Brady** deals with the harm that may be done to an infant by prolonged administration of a diet which exceeds the maximum which can be tolerated. Summer diarrhœa he regards as due to the overstepping of the tolerance limit which has been lowered owing to excessive heat, though a bacillary diarrhœa also exists. The influence of various types of food stuffs on the weight curve is considered.
Reginald Miller.

The effect of moderately high temperature upon the infant (*'Arch. of Ped.,'* 1913, XXX, *p.* 191).—**J. H. Mason Knox, jun.,** has investigated the condition of infants in the homes of the poor in Baltimore during the summer months. He concludes that such babies can be kept well during summer heat of moderate intensity where they are fed on the breast or on pasteurised or scalded milk; in other words, that the large infant mortality prevailing each summer is to a large extent unnecessary. Unfortunately there was comparatively little sustained great heat during the periods in which the investigations took place. Reginald Miller.

Vomiting in infants from insufficient nourishment (*'Thèses de Paris,'* 1911–1912, *No.* 459).—**I. Camhi.**—Vomiting due to this cause usually begins at six weeks and is accompanied by dark green glairy stools, small in amount, but frequent and composed of intestinal mucus deeply tinged with bile. The condition results in prolonged arrest of growth. There is no prostration, the eyes are bright, the cry is shrill and not plaintive, the muscles preserve their tonus, and though the child may be much emaciated, the general condition is not very grave. Diagnosis is difficult. Other causes for the vomiting must be eliminated, such as overfeeding, toxicity of milk, anaphylaxis, aërophagy, pyloric spasm or stenosis. The thesis contains the histories of 30 cases, 11 of which are original (*vide* British Journal of Children's Diseases, 1911, VIII, *p.* 504).
J. D. Rolleston.

Dilatation of the stomach in infants due to under-feeding (*'La Clin. infant,'* 1912, X, *p.* 647).—**G. Variot** and **Barret** have practised radioscopy as a routine method since 1909 at the Hospice des Enfants Assistés and noticed more or less marked dilatation of the stomach in a certain number of infants, who presented symptoms evidently caused by hypoalimentation and especially vomiting after each feed. The authors report

the case of a boy, aged 8 weeks, weighing 2·725 kgrm.; the weight was normal at birth. At first he was suckled by the mother and vomited after each feed. He was then put on the bottle and after fifteen days was considered to have congenital hypertrophy of the pylorus. The feed had been reduced to 20 grm. of milk. The vomiting was intractable, and the general condition very serious. Radioscopy showed that the stomach contained only a small quantity of milk and was considerably dilated; on moving the child to right and left the upper level of the fluid in the stomach was seen to be displaced. There was a large volume of air. No marked peristalsis was seen. He was put on a ration of 75 grm. of homogenised milk, with 15 grm. of solution of citrate of soda 5 in 300. The vomiting diminished and disappeared at the end of four days. In three months his weight had increased to 4·325 kgm. notwithstanding an attack of whooping-cough. The authors consider that radioscopy is the only method of accurate observation of the stomach. Aërophagy is only a secondary incident. The real cause of the condition is inanition and loss of tonicity of the stomach. VINCENT DICKINSON.

The examination of the napkin (*'La Semana Med.,'* 1912, XIX, *p.* 1052).—**Acuña** gives a most detailed description of the systematic examination of the infant's motions under the headings of frequency, consistency, form and aspect, colour, smell, chemical reaction, microscopic and bacteriological examination. The stool of the breast-fed child has a simple fæcal flora, consisting chiefly of Tissier's bifid bacillus. Children fed on cow's milk have a varied fæcal flora—all kinds of aërobic and anaërobic microbes. Triboulet and Harvier's perchloride test is valuable for estimating the biliary and intestinal functions. The paper concludes with a description of the stool in some common disorders of infancy. M. D. EDER.

Summer diarrhœa; heat; humidity (*'Am. Journ. Dis. Child.,'* 1912, IV, *p.* 148).—**L. T. Royster** says that diarrhœa exists practically only in temperate regions of the globe, but is exceedingly rare in tropical and semi-tropical regions. Liefmann and Lindemann demonstrated that the death curve and the sick curve follow an almost exactly parallel line with the 2 p.m. temperature curve; but Royster points out that the temperature of the official weather bureau was always lower than at the street level; that the temperature within dwellings is ten degrees higher than outside, and that the maximum temperature of working-class dwellings is reached five to eleven hours later than the maximum point in the open. The statistics of various American cities are summarised, but owing to incomplete data are not convincing. The statistics of Norfolk (population 81,000) have been worked out in detail as regards humidity, temperature, and diarrhœa mortality. A high daily number of deaths is given as four, while two or three are the daily average. On May 27, 1907, three deaths occurred, the temperature being 79° and the humidity 90. This was followed by a drop in the humidity till June 1, when it rose to 95. On June 2 it was 87, with a temperature of only 57°; but on that day the deaths rose to four. In June, 1911, there were two days with four deaths, and several ranging from one to three, the humidity ranging from 61 to 83. The author attempts no conclusion, but expresses the belief that extended research will demonstrate a definite relationship between humidity and diarrhœa.

CHRISTOPHER ROLLESTON.

Triboulet's reaction and infantile diarrhœa (*'Gazz. med. ital.,'* 1912, LXIII, *p.* 467).—**M. Pater** draws attention to the utility of this method of

investigating the stools. If in a child of 3 or 4 months the acetic sublimate solution gives a yellow or pale green deposit and a clear supernatant liquid, alteration in the intestinal and hepatic function is indicated. If the deposit is dark green and the liquid turbid, there is disturbance of the intestinal function with increased secretion of bile. If the deposit is dingy green or red with a pink, turbid liquid, it is an indication that the liver and intestines are functionally normal. VINCENT DICKINSON.

Diarrhœa and erythema caused by return of menses in the nurse (*'La Clin. infant.,'* 1912, x, *p.* 584).—**G. Variot** reports the case of an infant who developed diarrhœa, with liquid green stools, followed by a slightly erosive erythema on the buttocks, gluteal folds, and posterior and inner surface of thighs. Hereditary syphilis was contra-indicated. Disturbances of lactation by the menstrual periods causing green stools and erythema are not infrequently met with, and deserve greater attention, since mistakes might lead to disastrous consequences.

VINCENT DICKINSON.

Anasarca in infants (*'Thèses de Paris,'* 1911–12, *No.* 372).—**S. U. M. Tava** records ten cases, one of which is original, in children aged from fifteen days to three years, and arrives at the following conclusions: Generalised œdema in the infant is in most cases due to marked disturbance of nutrition, which is often caused by prolonged intestinal affections. The œdema frequently appears after the administration of small quantities of sodium chloride in the treatment of severe gastro-enteritis or entero-colitis, or it may arise spontaneously. It seems to be independent of any important renal lesions and to be probably due to chloride retention. In three necropsies marked fatty change in the liver was found, in one case associated with cirrhosis. In children who present œdema or an abnormal increase of weight out of proportion to the general condition (pre-œdema of Widal), the introduction of sodium chloride into the organism should be avoided (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1911, VII, *pp.* 422 and 501). J. D. ROLLESTON.

Alimentary fever (syndrome of Finkelstein) (*'Arch. de méd. des enf.,'* 1913, XVI, *p.* 1).—**F. Figueira** and **U. Lopes** give an account of Finkelstein's views on this subject, and an examination of several examples in their practice. Their conclusions agree with those of Finkelstein.

REGINALD MILLER.

Treatment.

The treatment of diphtheria by massive doses of antitoxin (*'Austral. Med. Journ.,'* 1912, I, *p.* 696).—**G. Leary** believes that in all severe naso-pharyngeal cases 50,000 units should be the initiatory dose, and if complicated with swollen glands, signs of rapid toxæmia and spreading membranes, 75,000 to 100,000 units. In infants the dose should be regulated by the number of days of invasion and not by age. If of forty-eight hours' duration, 24,000 units should be administered at once, and if complicated or over three days' 30,000 to 80,000 units. In uncomplicated cases of two or three days' standing 8000 to 12,000 units should suffice.

F. R. B. ATKINSON.

Serum treatment of tetanus after symptoms have developed (*'Journ. Amer. Med. Assoc.,'* 1913, LX, *p.* 363).—A girl, aged 14 years,

who had run a nail into her hallux a month previously was admitted to hospital with trismus, neck rigidity, rigidity of extremities, and pain on palpation of flanks and abdomen. Spasms were present. In the course of nineteen days she received 587,500 units of tetanus antitoxin. Recovery took place. Beyond a rash and rise of temperature no serum phenomena were noted.

J. D. Rolleston.

Serum treatment of pneumonia (*'Amer. Journ. Dis. Child.,'* 1912, iv, *p.* 383).—**R. G. Freeman** publishes observations on the use of pneumococcus serum (of the New York Board of Health) in the treatment of pneumonia in children. He concludes that the serum injections, while apparently affecting favourably the course of the disease in some cases, appear to have no result in others. Injection was in some cases followed by a marked remission of temperature, generally by a reduction in leucocytosis, and invariably by urticaria. The death-rate in the series (15 cases) was 40 per cent.; in a control series of a similar number treated without serum it was 47 per cent. The injected patients who recovered had a shorter average course of disease than the controls who survived.

Reginald Miller.

Parameningococcus meningitis cured by anti-parameningococcus serum (*'Bull. et Mém. Soc. Méd. Hôp. de Paris,'* 1913, xxxv, *p.* 411).—**H. Méry, H. Salin** and **A. Wilborts.**—A girl, aged 3 years, was admitted to hospital with symptoms of cerebro-spinal meningitis. The cerebro-spinal fluid was turbid and showed a few intracellular organisms resembling meningococci. Numerous injections of anti-meningococcic serum were followed by only slight and transitory improvement. The agglutination test showed that the organism was the parameningococcus. Rapid improvement followed injections of anti-parameningococcic serum, and finally recovery took place apart from deafness due to labyrinthine involvement.

J. D. Rolleston.

Cachectic form of parameningococcus cerebro-spinal meningitis cured by Dopter's serum (*'Bull. et Mém. Soc. Méd. Hôp. de Paris,'* 1913, xxxv, *p.* 423).—**H. Salin** and **J. Reilly.**—The patient was a boy, aged 3 years, in whom the disease ran its course in two stages. In the first stage the symptoms where those of ordinary cerebro-spinal meningitis. The general symptoms improved after treatment with meningococcic serum, but the meningeal symptoms persisted and the cerebro-spinal fluid was only slightly modified. In the second stage when the temperature was almost normal and the meningeal symptoms less marked symptoms of cachexia appeared, shown by emaciation, amyotrophy, cutaneous pigmentation, generalised adenopathy and torpor. The parameningococcus was then isolated from the cerebro-spinal fluid, Dopter's serum was used and rapid and complete recovery resulted.

J. D. Rolleston.

On the use of anti-whooping-cough serum of Klimenko (*'Journ. de méd. de Paris,'* 1913, xxxiii, *p.* 366).—**G. Rosenthal.**—Bordet and Gengou found in the sputum of whooping-cough cases a small ovoid organism varying in length, pale staining by Kühne's blue, negative to Gram. The first cultures are difficult to grow on any medium. The second culture grows well and forms an opaque, white, fatty-looking layer. This microbe is agglutinated by serum of children recently suffering from whooping-cough.

It produces nasal catarrh and cough in puppies and monkeys. Klimenko has tried in vain to obtain an active toxin and concludes that endotoxins alone are present. The serum of animals immunised by injections of cultures has undoubted power; it makes innocuous a lethal dose of bacilli injected into the peritoneal cavity of the guinea-pig. It has been used hypodermically and rectally in children, and the results show that it does not abort the attack, but diminishes the violence of the cough markedly and appears to lessen the frequency of complications.

J. Porter Parkinson.

Vaccine treatment of whooping-cough (*'New York Med. Journ.,'* 1913, I, *p.* 823).—**S. M. Wilson** has treated a number of cases from the orphanage at Philadelphia with a vaccine. In 24 cases not in the early stage to whom 40 million killed organisms were given and two days later a similar injection, the paroxysms diminished in frequency and severity. In early stages 20 million organisms were given every other day for about three weeks. If the systemic reaction to the injections was feeble cacodylate of sodium, 0·03 grm., was given with the vaccine. The author considers the treatment was successful, and that infection ceased when the paroxysms of coughing stopped.

J. Porter Parkinson.

Vaccine treatment of erysipelas (*'Med. Record,'* 1913, I, *p.* 573).—**E. M. Sill** records ten cases in infants aged from eight days to seventeen months. All but one aged three weeks recovered. Seven were treated with streptococcus vaccine alone, one with a combined vaccine of streptococci, staphylococci and *B. coli*, and two with Schæfer's mixed phylacogen.

J. D. Rolleston.

The complement-fixation test in the management of gonococcus vulvo-vaginitis (*'Amer. Journ. Dis. Child.,'* 1913, V, *p.* 313).—**G. G. Smith** has applied the gonococcal complement-fixation test to 25 cases of vulvo-vaginitis, with a view to test its value as a criterion of cure. The ages of the children ranged from 3 to 12 years and gonococci had been present in all of them. Of the 25 cases, 15 gave positive and 10 negative reactions. The test was positive in 11 out of 12 clinically positive cases, and in 4 cases in which the evidence was inconclusive. It was negative in 3 cases in which other evidence of cure was insufficient, but in 7 other cases the clinical evidence was corroborative. The author concludes that the test is of considerable value in establishing evidence of a cure.

C. F. Marshall.

Salvarsan and neo-salvarsan in congenital syphilis (*'Arch. f. Kinderheilk.,'* 1912, LIX, *p.* 252).—**Dünzelmann** reports the results of treatment of 37 cases of congenital syphilis by intravenous injection of salvarsan and neo-salvarsan. There were 12 deaths: 3 from pneumonia; 3 from empyema; 3 were severe cases, and 2 died suddenly with convulsions, one on the next day and one on the eighth day. Whether salvarsan caused death in the last six cases is said to be doubtful. Of the surviving cases 12 were tested several times with the Wassermann reaction. This was positive in 6, weakly positive in 1 and negative in 5. The doses given were 0·06 to 0·14 grm. salvarsan, and 0·1 to 0·2 grm. neo-salvarsan. Injections were made into the veins of the head. The author concludes that combined treatment with mercury is better than salvarsan or neo-salvarsan alone.

C. F. Marshall.

On the subsequent history of my cases of syphilis in children treated with salvarsan (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift, p.* 107).—**J. von Bokay** has been able to keep under constant observation ten of the twenty-six cases previously recorded by him (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *p.* 47). Six cases of congenital syphilis have had a recurrence of symptoms which appeared after an interval ranging from three and a half to eleven and a half months. In every case the symptoms were mild and readily yielded to calomel internally. Permanent recovery occurred in four cases, two of congenital and two of acquired syphilis, which had been kept under observation for a period varying in each case from twenty-four to twenty-nine months. The Wassermann reaction in these four cases which had been positive at first is now negative. Owing to the relatively large number of recurrences Bokay combines mercurial treatment with salvarsan. J. D. ROLLESTON.

Heliotherapy in tubercular arthritis (*'Paris méd.,'* 1912–13, I, *p.* 469).—**L. Jaubert** proceeds as follows: For the first eight days no treatment is instituted. At the end of this time, the first day three *séances* are given of five minutes on the feet and the lower part of the legs. The day after the sun's rays are applied for ten minutes to the same parts and five minutes to the thighs; the third day fifteen minutes to the legs, ten minutes to the thighs and five minutes to the trunk, and this is gradually increased, and the whole body submitted to the sun's rays. If erythema supervenes the treatment is stopped for two or three days. The whole treatment lasts any time up to a month. The treatment is contra-indicated if the heart is affected with bad compensation. The author has seen good results from this treatment.
F. R. B. ATKINSON.

The treatment of infantile anæmias (*'Paris Méd.,'* 1911, II, *p.* 138).—**Léon Tixier** considers the treatment of simple and grave anæmias. *Simple anæmia:* The common form of moderate severity. Good food, fresh air and good surroundings. The author recommends the protoxalate of iron in divided doses amounting to 0 gr. 10, 15, or 20 each day. If the stools become black one to two teaspoonfuls of lemon-juice should be given half an hour after each meal containing the iron. Fowler's solution often causes digestive trouble and is best avoided. Bone-marrow, fresh, 10 to 20 grm. *per diem*, often acts efficaciously. The cause should always be sought for. In anæmias caused by gastric troubles the latter must be first attended to before the employment of iron. In syphilitic anæmia the author recommends a combination of mercury and iron, the former to be given intramuscularly: 10 injections, one a day, of 0·005 of benzoate of mercury or a mixture of protoxalate of iron and biniodide of mercury. In tuberculous anæmia the author gives Fowler's solution or the bioxide of manganese.
F. R. B. ATKINSON.

Normal human blood-serum in hæmorrhagic diseases of infants and children (*'New York Med. Journ.,'* 1913, I, *p.* 125).—**J. E. Welch** relates three examples out of thirty-five cases saved by the injection of normal human blood-serum. One was a girl, aged seven years, with nose-bleeding and subcutaneous hæmorrhages, who was given three injections of the serum in doses of 37 c.c., 43 c.c. and 30 c.c. respectively at intervals of five days. The bleeding, which was severe, ceased after the first injection. Another was an infant who twenty hours after birth began to pass large bloody stools and

became extremely anæmic. Four hours after the first hæmorrhage the serum was injected and was followed by other injections till 101 c.c. had been given in twenty-four hours, by which time the bleeding ceased. For three days more serum was administered till 226 c.c. had been given. The child recovered rapidly and on the fourth day was able to take the breast quite naturally. The third case was an infant who became jaundiced the third day after birth and soon became comatose with cyanosis and tense fontanelle, rigidity of the neck and twitching of the limbs. Lumbar puncture withdrew $\frac{1}{2}$ ounce of nearly pure blood which reduced the tension of the fontanelles. The condition got worse, till 60 hours later 30 c.c. of serum were given subcutaneously and in another six hours a similar dose. In twenty-four hours the twitching had quite disappeared and lumbar puncture showed that the hæmorrhage had ceased. For five days the serum was administered till 630 c.c. had been given in all. Improvement was continuous, the weight increased and the child completely recovered. The writer attributes these bleedings to auto-intoxication from excessive growth of pathogenic bacteria in the intestinal tract with absorption of toxins.

J. Porter Parkinson.

Hæmorrhagic disease of the newborn treated by horse-serum (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 1154).—**W. B. Jennings** records another instance of the efficacy of horse-serum in the treatment of hæmorrhage in the newborn. The infant was a female whose mother was said to have suffered from pernicious anæmia and valvular disease of the heart. On the fourth day the child vomited bright blood and passed blood *per rectum* to the extent of 6 or 8 drachms. On the following day a teaspoonful was spat up and about 1 oz. was lost by the rectum. Two doses of 7 and 8 c.c. respectively of normal horse-serum were given subcutaneously. On the next day the motions were tar-like and the urine was blood-stained. An urticarial rash appeared, but there was no more hæmorrhage. The child made a good recovery, the temperature, except at the beginning, being subnormal throughout.

T. R. Whipham.

Treatment of familial hæmophilia and purpura by injection of Witte's peptone (*'Arch. mal. du cœur,'* 1913, vi, *p.* 397).—**P. Nobécourt and L. Tixier.**—In the case of hæmophilia, a boy, aged 10 years, in whom injections of horse-serum had been unsuccessful, repeated injections of 5 per cent. Witte's peptone produced marked improvement, the tendency to hæmorrhage disappeared almost completely, the child put on flesh, and coagulation time was much more rapid than before. In six cases of severe purpura the results were as follows: In two children, aged 5 and 9 years, recovery was rapid after four or five injections, in two aged 2 and 10 years several series of injections were required, and in two aged 6 and 11 years no effect was obtained.

J. D. Rolleston.

Remarkable effects of ipecacuanha in small doses in certain obstinate digestive troubles in infancy (*'Journ. de Méd. de Bordeaux,'* 1913, xliii, *p.* 211).—**R. Saint-Philippe** finds that there is a disease existing in infants from 18 months to 4 years, exhibiting the following symptoms: constipation, intestinal atony, loss of appetite, dyspepsia, apepsia, anæmia, malnutrition and emaciation. It may be primary or secondary, and gives rise to a syndrome characterised by anorexia, fæcal stasis and evacuation of muco-membranous material. It is best treated by ipecacuanha in small and gradually increasing doses.

F. R. B. Atkinson.

Thyroid medication in children (*'New York Med. Journ.,'* 1913, I, *p.* 870).—**M. B. Gordon** speaks of "hypoplastic" cases where there is a marked deficiency in height and weight, persistent low temperature, delayed puberty, high-arched palate, delayed epiphyseal development, enlarged tonsils, adenoids and dulled mental capacity, which may be much improved or made normal by thyroid treatment. In Mongolian idiocy, except when associated with thyroid deficiency, thyroid treatment has no effect. In some cases of enuresis the treatment has been found beneficial. It is also useful in skin conditions, such as sclerosis neonatorum, psoriaris, scleroderma and eczema. In addition to its physiological action, thyroid acts through the arsenic and iodine it contains, and arsenic may be added to it to increase its efficacy. Its prolonged use may cause diarrhœa, salivation, increased perspiration and lowering of blood-pressure, with increased frequency of heart-beat and skin changes akin to those of myxœdema. The dose depends upon the individual susceptibility of the child and not upon age, weight, etc.

J. Porter Parkinson.

Value of massage in treatment of various disorders in children (*'Am. Journ. Med. Sci.,'* 1913, CXLV, *p.* 504).—**J. Phillips** alludes to the good results obtained by MacPhail (*v.* British Journal of Children's Diseases, 1912, IX, *p.* 404), and relates his own experience. The best results were obtained in cases of malnutrition with loss of appetite, weak flabby muscles and distinct pallor. Great benefit was also obtained in rickets, in poliomyelitis after the acute stage, in the prevention of contractures in polio-encephalitis and other diseases of the upper neuron, in the treatment of nervous children, and rheumatic patients with cardiac lesions. Three illustrative cases are recorded in children, aged 10 months, 22 months and 5½ years respectively.

J. D. Rolleston.

Dietetic treatment of convulsions and allied conditions occurring in infants (*'Amer. Journ. Dis. Child.,'* 1913, V, III, *p.* 205).—**C. G. Grulee** in the course of a long article deals with the dietetic cause of spasmophilia in infants. He regards with Finkelstein the whey of milk as the exciting cause, and has pursued many investigations in an endeavour to trace the constituents of the whey, which should be looked upon as the source of the danger. In particular he tested the conclusions of Reiss that calcium and magnesium decrease, and sodium and potassium increase, nervous irritability. Experiments on thyroidectomised dogs did not lend any decided support to this view, and observations on infants with tetany, although confirming the excitant action of whey, did not confirm the hypothesis that the increased electrical irritability in spasmophilia is the result of a disturbance of calcium and sodium equilibrium.

Reginald Miller.

Dietetic treatment of infantile tetany (*'Arch. of Ped.,'* 1912, XXIX, *p.* 24).—**C. G. Grulee** records four cases of tetany in infants which he considers support Finkelstein's view, who, in speaking of infantile tetany, says, "probably the disturbance has nothing to do with the casein, the milk-fat, or the sugar, the addition of either of which substances to a mildly irritating diet has no disadvantageous effects, but the whey has the same action as cow's milk, so that probably some substance dissolved in it is involved." In his four cases food containing no whey proved to be non-irritating, but with striking regularity there was an increase in the tetany

when whey was added. After summarising much of the recent work on calcium metabolism and parathyroid action in connection with tetany, he thinks that it is to the derangement of calcium metabolism that tetany is most likely due. "If tetany is due to a lack of calcium in the organism, and if tetanic conditions improve on a food which is low in calcium, then we may only conclude that the calcium which is in the food is much better utilised, and that the calcium in the body is retained, and that, in other words, whey contains some constituents, about which we know nothing, which cause a removal of the calcium from the system." He concludes by saying that removal of whey from the food renders it non-irritating in these cases, but it must be supplemented with sedatives in order to bring about a proper reduction of the "spasmophilic condition."

FREDERICK LANGMEAD.

Review.

THE BRITISH JOURNAL OF SURGERY. Issued quarterly. Subscription 25s. net per annum. Pp. 153, 67 figures. Bristol: John Wright & Sons.

IN welcoming this new quarterly, which is brought out by an editorial committee of representative metropolitan and provincial surgeons, under the chairmanship of Sir Berkeley Moynihan, we may quote the intention of the promotors, as voiced in Sir Rickman Godlee's foreword, "that it shall include the best, and as far as may be, only the best, British surgical work of the day." A brief account with a portrait of Lord Lister, which appropriately forms the frontispiece, is followed by a number of original articles, two critical reviews, accounts of the clinics of Sir W. Macewen and Prof. Tuffier of Paris, shorter articles on instructive mistakes and on rare or obscure cases, accounts of new instruments and appliances, and lastly by reviews of books. The original articles are of a high order; Mr. David Newman writes authoritatively on renal varix and hyperæmia as causes of symptomless renal hæmaturia. In his scholarly article on gall-stones Mr. D'Arcy Power pleads for earlier operation, and points out that removal of renal calculi is never delayed in the way that cholecystotomy for gall-stones is. Mr. Sampson Handley writes of Sir Henry Butlin's somewhat neglected operation of marginal resection of the tongue, and pays a graceful tribute to the memory of this distinguished surgeon. From a study of 402 specimens Mr. Morriston Davies comes to the conclusion that apical pulmonary tuberculosis is not favoured by abnormal shortness or ossification of the first costal cartilage, and that the balance of evidence is against the probability that the operation for division of the first costal cartilage in apical tuberculosis will produce any material improvement. Mr. Robert Jones and Mr. Alwyn Smith, of Winnipeg, contribute a copiously illustrated article on rupture of the crucial ligaments of the knee and on fractures of the spine of the tibia. There is an admirable critical review on the nature of surgical shock by Mr. Rendle Short. The journal is full of interesting matter, is very well printed and beautifully illustrated.

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Original Articles.

CASES OF CHYLIFORM EFFUSION.*

By H. A. LEDIARD, M.D., F.R.C.S.,

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(1) CHYLIFORM ASCITES (TUBERCULOUS), WITH NOTES OF AUTOPSY BY PROFESSOR BEATTIE.

IN 1903 an example of chyliform ascites came under my observation, and so uncommon are such cases that I have ventured to bring before this Section a short account of it, and I do so with greater confidence because a carefully made autopsy by Professor Beattie is added, and the case, if wanting in some clinical details, is, at any rate, complete from a pathological point of view. On July the 1st, acquaintance was first made with the patient, and he died on July the 28th, and the only clinical observations at hand are those made between these dates.

The patient, a lad, aged 18 years, belonged to healthy parents, and was the only delicate child of a family of eight. There was no tuberculous taint, except that a maternal aunt died from tuberculosis at the age of forty-seven. When aged 5½ an attack of abdominal pain first came on, resembling peritonitis, followed a month later by a second attack with similar symptoms, and recovery was associated with

* The cases were reported to the Medical Section of the Royal Society of Medicine on May the 27th, 1913.

emaciation. In 1892, at the age of 7, there was a slight threatening of the old abdominal pain. For the next eight years the boy went to school, but a kind of delicacy of health was evident, and he became a student rather than one enjoying games. In the early part of 1903 the patient went abroad, and all doctors who examined him agreed that he suffered from tuberculous disease within the abdomen.

At the date of my first visit the patient was not confined to bed and appeared to have some enjoyment of life, but his aspect pointed to a grave condition. The swollen abdomen contrasted markedly with a thin, pale face, and limbs destitute of fat and poor in muscle. The face was expressive of prolonged physical depression rather than of pain, the disposition was quiet, the habits studious, and the appetite capricious. The costal margin was much displaced by prolonged pressure from below, the abdomen was moderately tense, and had a fluctuant wave all over. The anterior abdominal wall showed distended veins, and when he coughed fluid passed down the left inguinal canal into the scrotum. The enlargement of the abdomen had been remarked upon in 1897—*i. e.* six years before I saw him.

Dulness on percussion was found for a limited area above the umbilicus; elsewhere bowel seemed to float above the fluid.

The temperature, July the 1st, 4 p.m., was 101° F. There was no vomiting or cough, but diarrhœa was a prominent symptom. The urine was free from albumin and sugar; bile-pigment was present in small amount, but no jaundice of the skin was noted. From the history and from the physical examination a diagnosis of tuberculous peritonitis was arrived at and drainage of the abdomen recommended. Four days later visible pulsation of the heart was seen in the second and third interspaces, the liver was displaced upwards, and the patient complained of the tightness of his clothes. On account of the rapid respiration and cardiac displacement, an incision was made above the umbilicus, with the result of striking a milk-white fluid at once. Six pints were removed and a drainage-tube inserted, but the abdomen was not explored. After the tapping fluid was not felt again in the scrotum. I mention this as it proves that the fluid was free in the peritoneal cavity. A sample was referred to the Clinical Research Association, and the report received was as follows :

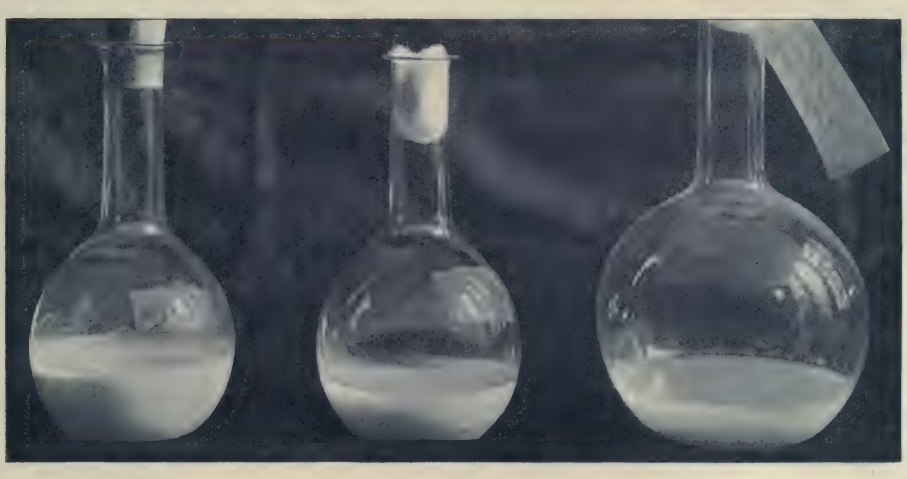
"This is a milky fluid of alkaline reaction and a specific gravity of 1005. It contains six parts per thousand of albumin and less than 0·2 per cent. of fat. On microscopic examination it is seen to contain an emulsion of fat and numerous bacteria, with certain extraneous matters, but no distinctive cellular elements can be found, and both

pus and blood are absent. Owing to the decomposed state of the specimen, its microscopic examination was somewhat unsatisfactory. In its characters the specimen does not differ from a transudation fluid, poor in albumin and of low specific gravity. Fluids of this character, when ascitic, are very frequently chylous, or rather, chyloid."

Summary of Case after Operation.

The incision was made on July the 7th, and death occurred on July the 28th. At first there was a free discharge of milky fluid,

Fig. 1.



July the 7th, 1903: Chyliform ascites; tapping. | July the 9th, 1903: Fluid run through tube. | July the 29th, 1903: Fluid in abdomen post mortem.

but the tube was removed on the fifth day after the puncture. The temperature varied, being seldom normal or subnormal, and usually between 99° and 102° F.; during the last few days there was a gradual fall to 97° F. The tongue, at first coated with a thick white fur, cleaned after the operation; then became dry as the general condition changed for the worst. The pulse-rate was from 90 to 120, but no irregularity was ever noted. Perspiration showed sometimes about the head, then heat and dryness were seen. Towards the end large areas of capillary stasis appeared over the chest and abdomen, not disappearing on pressure; the face was occasionally cyanosed. The respiration varied from 24 to 38, and finally became irregular, and crepitations were heard over the front of the chest. After operation the appetite improved, and some

solid food was taken without sickness; vomiting was seldom noted. Towards the end strabismus and diplopia were noted, but the pupils remained equal. Speech became indistinct and confused; there was drowsiness and muttering during sleep.

The hands became restless and tremulous, some periods of excitement were passed, and the legs became sensitive to touch. The abdomen tended to increase in size, chiefly from flatus, and there may have been some reaccumulation of fluid. The kidneys continued to act sufficiently; sometimes micturition was difficult, and sometimes there was involuntary urination. Emaciation during the last week of life was very noticeable. There was slight right facial paralysis. Memory became defective. There were visual hallucinations, and the hands searched the air. From the squinting, facial paralysis, drowsiness and mental symptoms, it was concluded that tuberculous meningitis was present, but there were no convulsions or coma at the termination.

Duration of the Disease.

Judging from the appearance of the costal margin the disease had been going on for many years, perhaps even twelve, and dated probably from the attack of severe pain in the abdomen which resembled peritonitis. In further proof of the chronicity of the disease, it may be mentioned that when at school the boy had a delicacy of stripping before others on account of the protuberance of the abdomen. It is further suggested as probable that the severe attacks of abdominal pain in 1890 and 1891, during which the legs were drawn up and cries of agony were heard, were associated with distension of the lymphatic vessels behind the obstruction, with transudation of chyle within the peritoneum.

Although it cannot be said that the pain associated with transudation of chyle within the abdomen differs from pain due to other causes, yet it is somewhat suggestive in my two cases. In the tuberculous case there were attacks of acute abdominal pain, the cause of which was unrecognised.

In the second case, assumed to be due to pressure of glands in the neck, the sudden onset of acute pain created a suspicion of peritonitis. In Dr. Cayley's case there were symptoms pointing to acute peritonitis, ending in rapid death, in the same way that my case came to a sudden and unexpected collapse.

Report of Autopsy (by Prof. J. M. Beattie).

The body was emaciated; the abdomen was very much distended.

On opening the abdomen a chylous fluid escaped. This fluid was found to be free in the abdomen, but more on the right side than the left. It was, however, not shut up *in loculi*. Seventy-five ounces were removed. The intestinal coils and the stomach were very markedly distended by flatus; so great was this distension that the heart was pushed upwards. The peritoneum was thickened throughout, and was studded with minute, firm, tubercular granulations. There were no adhesions between the intestinal coils themselves, or between them and the abdominal wall. The omentum showed very numerous but extremely minute tubercular granulations. It was not thickened, and was not adherent, except to abdominal wall at the site of incision (operation). The mesentery was very much thickened, and the mesenteric glands greatly enlarged, many of them measuring fully 2 in. in diameter. The glands were pale, very firm, and on section showed no trace of caseation. The superior mesenteric vein and its branches were very much distended and the wall thickened. The main trunk was fully $\frac{1}{4}$ in. in diameter near its origin. In the region of the pancreas for fully $1\frac{1}{2}$ in. there was a mass of glands and fibrous tissue in the middle line. The fibrous mass was constricting the superior mesenteric vein and the splenic at their origin, so that the lumen at this point would admit only a very fine probe. The splenic vein to the left of the constriction was much distended, and passed through a continuation of the fibrous mass to the left. The receptaculum chyli could not be seen, and was apparently obliterated by this fibrous mass. The thoracic duct in the thorax showed no abnormality, but the lymphatic vessels in the mesentery were very considerably distended and their wall very greatly thickened. No ulceration or rupture could be made out.

Microscopical examination of sections of mesentery.—The main thickening was due to glandular enlargement and distension of veins and lymphatics. The glands showed numerous tuberculous foci. In most of these there was early caseation in the centre, with cellular proliferation round these areas and well-formed giant-cells. In some there was distinct fibrous formation round the nodules. The veins were greatly distended and their walls thickened. The efferent lymphatics showed a very marked distension, and the walls, especially the muscular fibres, showed considerable thickening. These lymphatic channels were very irregular, and contained numerous mononucleated cells, the nuclei being rounded and staining darkly. At places these cells were accumulated at the periphery of the channel, and appeared to be derived, at any rate in part, from proliferated cells lining the spaces. In some of these dense masses of cells there was a consider-

able amount of fibrin, in which the cells were entangled. At other places there was distinct evidence of organisation, young capillaries and young connective-tissue cells invading these masses of cells from the periphery of the vessel. Intestines: There was no evidence of ulceration, and no waxy degeneration. Liver: Both under the capsule and in the substance there were very numerous small tubercular granulations. Microscopically these are seen to be very early nodules, consisting of proliferated cells without caseation and without giant-cell formation. The bacillus of tuberculosis could be shown in small numbers. Spleen: The spleen was considerably enlarged, measuring

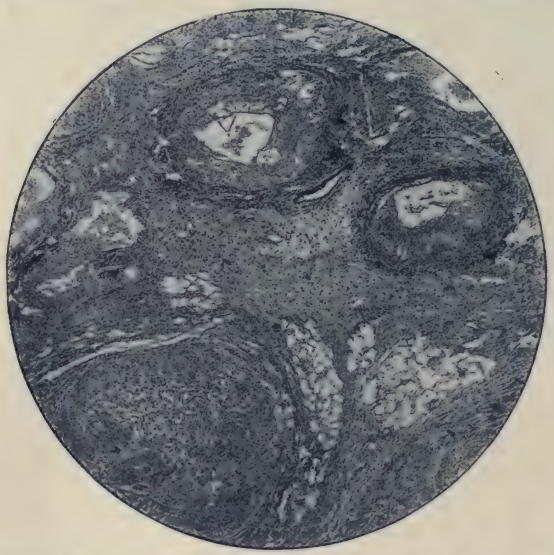


FIG. 2.—Section of lymphatic gland showing lymphatic channels with cellular thickening (tuberculous) of their walls, causing marked obliteration of their lumen. There is also extensive inflammatory change in the surrounding tissues. At the lower part there is a large tuberculous area. (× 26.)

8 in. long, 8 in. broad at its upper end and 4 in. broad at its lower end, and 2 in. in thickness. It was bent on itself from without inwards in its transverse axis. It was firmly bound down to the abdominal wall by old adhesions, these adhesions being the only ones present in the abdomen. On section it was dark in colour and the pulp fairly firm. No tubercular granulations could be made out with the naked eye. Microscopically there are a few tubercular granulations, some of them showing mere cellular proliferations, others showing a slight amount of caseation, and here and there is a well-formed giant-cell. Kidneys: These showed fairly numerous small tubercular granulations scattered through the substance. Micro-

scopically there is very little abnormal, except the presence of early tubercular granulations. Lungs: Both showed a very extensive miliary tuberculosis. No evidence of cavity formation. Microscopically the tubercle nodules are seen to be very recent, the majority being in the cellular stage without caseation. No giant-cells were seen. At the periphery of the nodules the vessels are dilated, and at parts there is distinct hæmorrhage, the air-vesicles being filled with blood. Tubercle bacilli are present, but not numerous. The glands at the roots of the lungs were enlarged and resembled those of the abdomen. There was no enlargement of mediastinal glands. Brain: There was considerable flattening of the convolutions uniformly on the two sides. At the base there was a turbid, gelatinous exudation in the inter-pedunclear space, spreading forward over the optic chiasma, and laterally along the Sylvian fissure, and posteriorly to the surface of the cerebellum.

In the membranes over these regions there were very numerous tubercular granulations.

Summary of Autopsy.

Tuberculous disease was widely distributed throughout the body. The peritoneum, omentum, mesenteric glands, liver, spleen, kidneys, lungs, and brain all showed, either with the naked eye or with the microscope, a deposit of tubercle. As regards the lymphatic system in the abdomen, the receptaculum was apparently obliterated in a mass of glands and fibrous tissue, and the different lymphatics showed a very marked distension. Obliteration of the receptaculum and evidence of dilatation of the lymph-vessels behind the obstruction are the main features in the pathology, the morbid material is tubercle, and the method of chyliform ascites was by transudation. No perforation was found, and had a perforation or rupture existed, there would probably have been no distension of lymph-vessels.

Remarks.

This case is in some respects fairly complete, and can be read with those of a similar nature recorded by others. That the origin was a tuberculous disease affecting the mesenteric glands can hardly be doubted, and as it progressed the receptaculum chyli was subjected to pressure, and that chyle transuded for years seems the probable truth. Death was due to tuberculous infection of the membranes of the brain, after a long period, during which the disease was limited to the abdomen. All who saw the case during

the last months of life—amongst whom were Dr. Lewis Smith and Professor Greenfield—were agreed upon the presence of tuberculous disease within the abdomen, but the chyliform ascites met with at the tapping was wholly unexpected, and, in the absence of any recognised symptoms pointing to such an effusion, future operators upon such cases will probably meet with a similar surprise; for there is no diagnostic sign to indicate a chyliform ascites, short of tapping or exploratory incision. That the thoracic cage at its inferior margin indicated prolonged pressure from fluid in the abdomen is what would be met with in any case in a young subject, whether due to cirrhosis of the liver or ordinary ascites due to any other cause, but in my case the shape of the abdomen seemed to show that the fluid in the abdomen was collected more in the upper half, and thus it was that the incision made came above the umbilicus. Such a peculiarity might be of service in another case of a like kind. The fluid showing itself in greatest bulk beneath the costal arch might suggest that a cyst was present, but it will be remembered that the fluid was free in the abdominal cavity, as proved by its easy descent down the left inguinal canal during coughing.

The case of chyliform ascites published by Whitla in 1885 may be contrasted with my own in 1903. Whitla's patient was a boy aged 13; my case was a lad aged 18. In both tuberculous infection was the cause of the effusion, but with this important distinction: In Whitla's case a perforation of the receptaculum chyli was found, which had permitted pure chyle to escape for months. The analysis of the fluid showed that it consisted of pure chyle, and from December the 7th to February the 14th, or sixty-eight days, 15 gallons were drawn off, or 31 oz. per day, and yet the patient did not lose weight. In my case the fluid met with was not pure chyle, but a transudation through the walls of the lacteals, and the chemical analysis of the two effusions is very different.

(2) Chyliform Ascites associated with Hodgkin's Disease.

The second example of chyliform ascites from transudation of chyle was due, I believe, to pressure on the thoracic duct at its termination, but there was no autopsy permitted in order to verify this. The case was one of lymphadenoma, or Hodgkin's disease, occurring in a girl, aged 18 years, who had not long before undergone two operations—first operation, May, second operation, June, 1912—for removal of masses of glands on the left side of the neck and in

the left axilla. On readmission to hospital in December, 1912, there were symptoms of peritonitis and fluid within the abdomen, and when tapping was done a milky fluid was withdrawn. The girl had become emaciated and colourless, and looked starved, in spite of rest in bed and careful attention to feeding. I would suggest, although it cannot be proved, that pressure on the duct at its termination caused a transudation of chyle within the abdomen, because there were, at the time, many more glandular enlargements at the root of the neck on the left side, as well as on the right.

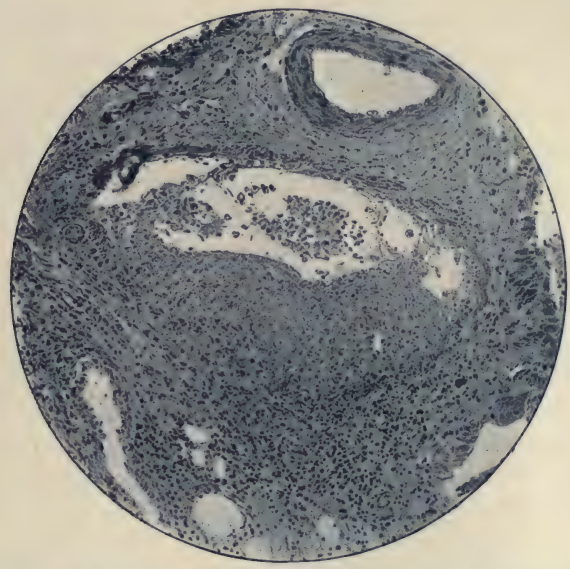


FIG. 3.—Section of lymphatic gland showing lymphatic channel with cellular thickening at one side, numerous mononuclear cells in lumen, lymphocytic infiltration in surrounding tissues. (× 100.)

Whether there was any effusion of chyle within the thorax cannot be even surmised. Among the sixty-eight cases of chyliform ascites tabulated by Dr. Batty Shaw, there are eighteen due to compression of the thoracic duct or lymph-vessels by glands or neoplasms, and I believe that this case of Hodgkin's disease, in which there was a transudation of chyle, may safely be added to the number. The following is the laboratory report:

Report of Clinical Research Association on fluid from abdomen, December the 28th, 1912.—This fluid is faintly alkaline to litmus, has a specific gravity of 1011, and its albumin content 1·2

per cent. (Aufrecht). The centrifugalised deposit is moderate in amount, and consists almost entirely of pus-cells, together with a very finely emulsified fat. Films stained according to Gram's method demonstrate the presence of large numbers of streptococci. Tubercle bacilli are not detected in special preparations. The fluid when shaken up with ether loses some of its opacity, and from chemical analysis the quantity of fat, including lecithin, etc., is found to be 0·25 per cent. The fat is composed of finely divided globules, such as would occur in chylous fluid. For comparison we mention that Halliburton, quoting Hoppe-Seyler, gives the figure for total fats in human chyle as 2 per cent. roughly. There is undoubtedly pus present in the specimen, and a differential count shows 78 per cent. polynuclear leucocytes, while 22 per cent. are of the lymphocyte type. A typical streptococcus of the *pyogenes* type has been isolated from the specimen. The fluid was probably a chyle transudate admixed with pus, and much of its opacity is due to the presence of the latter.

General Remarks.

The literature on milky ascites is accumulating, in spite of the cases, being few and far between, and I am anxious to acknowledge my indebtedness to Dr. Batty Shaw, to Dr. H. D. Rolleston and others, for their valuable contributions with which English science has been enriched. The interest in these cases lies very much in the fact that so many different causes may bring about a similar effect, so that, having a case of milky ascites in hand, it is by no means an easy matter to decide upon the originating cause. For example, of twenty cases collected by Rotman, only two are attributed to tubercle; and of nine cases of milky fluids in the thorax, only one was associated with tubercle. The chances are largely in favour of cancer, as six stands to two. According to some authors there is no clinical significance to be drawn from the nature of the fluids, but I think that chemical and microscopical examinations are of enormous aid in separating the many causes to which milky ascites may be attributed. A milky fluid may be pure chyle due to a leak, or it may be chyle which has transuded, or there may be in the fluid cells of various kinds, blood-corpuscles, lymphoid cells full of fat-granules, or epithelial cells with fat-granules, and such additions to a milky fluid might indicate the presence of cancer within the abdomen, with chyle leaking or transuding from lacteal vessels. Actual rupture of the receptaculum seems to be rarely met with; a transudation from

distension of lacteals happens oftener. With a leakage of chyle from a perforated receptaculum it is very difficult to see what could be done, and even with a transudation of chyle due to pressure on the receptaculum of years' standing it might prove impossible to extricate matted glands. For example, in the case mentioned, where glands at the root of the neck apparently prevented the flow of chyle into the veins, liberation of the pressure by removal of the glands might, if carried out without damage to the duct or vein, have checked the transudation of chyle within the abdomen. Faced with difficulties in dealing with disease marching on to an inevitable end, it is for the surgeon to afford relief to be obtained in no other way. I have a hope that a day may come when a remedial operation may be devised and carried out in cases of milky effusions or transudations within the abdomen or thorax. With dissemination of cancer, or of tubercle throughout the body, the chance of relief is gone, and the effort, if made at all, must be made in the early stages of the disease

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OBSERVATIONS ON FOUR CASES OF RELAPSING PNEUMONIA IN YOUNG CHILDREN.

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Pneumonia, as it occurs in adults, is recognised as a disease possessed of very definite and notably uniform characters, whilst it is equally well known that the clinical manifestations of inflammation of the lungs and bronchi occurring in children are very variable.

The majority of observers skilled in diseases of the respiratory system subdivide the acute pneumonias of childhood into three groups, in which a very marked difference in mode of onset, course, duration and sequelæ is noticeable. Though somewhat difficult to differentiate by physical examination of the chest during life, it is possible to ascertain with some degree of accuracy the character and extent of the lesion in each group. So far as gross morbid anatomy is concerned, differentiation is possible, but microscopic appearances approximate so closely and the series of intermediate gradations between typical cases is so complete that the separation of the three groups by this means is difficult.

The type which is least common corresponds accurately in clinical aspect, physical signs and morbid anatomy with the lobar pneumonia of adults.

The second type is, perhaps, the most common. The child is taken suddenly ill with fever, respiratory distress, and a short, painful cough. On examination of the chest consolidation is found affecting a considerable area of lung-tissue, usually at the base of the lower lobe on either side, but not infrequently near the apex of the upper lobe, sometimes in the mid-lobe on the right side.

On account of the distribution of the lesions, this type of pneumonia is appropriately described as *lobular*. Like the preceding, this variety of pneumonia ends suddenly.

Crisis is rare in children, but ending by partial or imperfect crisis common. Usually, in pseudo-crisis, the temperature falls to normal in the latter half of the day but rises again to 102° F. at night, falling finally to normal the following morning, the process occupying from twelve to twenty hours. In pseudo-crisis, as defined, the process should occupy at most not more than ten to twelve hours.

Ending by lysis frequently occurs, but even then the process of defervescence is a moderately rapid one.

In lobular pneumonia adjacent lobules are frequently affected

during the same pyrexial attack, the result being that the greater part or the whole of a lobe may be consolidated. The condition is commonly described as confluent broncho-pneumonia, but is more strictly a confluent lobular pneumonia.

A third type of pneumonia is that associated with bronchitis, and due to an extension of the inflammatory process over a greater or less area of lung-tissue to the alveoli.

The gravest form of all the pneumonias which affect children is undoubtedly that described as suffocative bronchitis or acute capillary bronchitis, in which there is universal bronchitis and peribronchial pneumonia. When associated, as is not uncommonly the case, with laryngitis, this variety is almost always fatal.

The above classification is based almost entirely on the anatomical distribution of the pulmonary lesions. Pneumonias of childhood have been further classified as primary and secondary according to the causation of the illness ; some difference of opinion exists as to the exact acceptance of these terms. Some, including the majority of French writers, regard secondary pneumonias as those which are consequent on the exanthemata, and group with these septic pneumonias due to the inhalation of virulent poisons ; all other varieties of the disease are considered to be primary pneumonias.

Others classify as primary, pneumonias of sudden onset without antecedent symptoms ; whilst, under the heading of secondary pneumonia, are included pneumonias occurring in bronchitis together with those due to inhaled irritants and the group which follows the exanthemata.

Dr. A. P. Beddard, in Allbutt and Rolleston's 'System of Medicine' (vol. v, p. 184), estimates the duration of pneumonia in children as being from one to two days to three or four months. The commonest duration is fourteen days, 70 per cent. of all cases lasting only from seven to twenty-two days, 10 per cent. for a shorter period, 20 per cent. for a longer. In certain cases pneumonic attacks lasting for several days with high fever and characteristic symptoms may alternate over a period of many weeks, with days during which the temperature is normal and the symptoms of pneumonia subside.

It is in lobular pneumonia that failure or delay of resolution is apt to occur and that relapse is common.

Certain well-defined clinical manifestations are generally present in relapsing pneumonia in children, and such cases may often be recognised at an early stage.

With a view to illustrate the salient points on which diagnosis of

relapsing pneumonia is based, I propose to describe four cases of pneumonia in which a succession of febrile attacks associated with lobular infection of the lungs alternated with intervals of normal temperature over a period of thirteen weeks.

Case 1.—G. T—, aged 1 year and 7 months, admitted to St. Bartholomew's Hospital, November the 2nd, 1905.

During nearly a fortnight the child had seemed to his parents to be ailing, but his illness had taken no definite form until five days before admission, when he developed a severe cough and vomited twice. There was nothing in his family history to suggest pulmonary tuberculosis.

On admission he appeared fairly well nourished and when disturbed gave vent to a lusty cry. He preferred to lie on his back, his left cheek was flushed, he breathed rapidly and had a frequent short dry cough.

At the bases of both lungs posteriorly *râles* were heard, most numerous on the right side and audible also in the axilla. In the left axillary line the physical signs indicated the presence of an area of pneumonic consolidation at about the level of the seventh rib.

Two days later signs in the chest were more definite and extensive; on November the 6th the temperature fell to 96° F., and physical signs had so far disappeared that only a few *râles* scattered at both bases were heard. There was slight discharge from the left ear.

A severe relapse occurred the same evening, however, and a very considerable area of fresh lung-tissue on both sides of the chest became involved, almost the whole of the left lung, excluding the apex of the upper lobe, showing evidence of consolidation; the greater part of the right lower lobe was also affected.

So alarming did the child's condition become in the fourth week of the illness that exploratory acupuncture of the chest was performed. No fluid was obtained.

On December the 5th a fresh area of consolidation appeared at the right base, and the temperature remained irregularly raised until well into the sixth week of the disease.

On December the 19th pneumonia had spread to the base of the right upper lobe, and the child was taking its food so reluctantly that nasal feeding was employed. The grave condition persisted until December the 28th, but signs in the right lung gradually cleared up, the area at the angle of the left scapula alone remaining.

Fresh patches of pneumonic consolidation with corresponding

rises in temperature continued to occur, and on January the 9th the child was much weaker, and its spleen was felt to be greatly enlarged.

On January the 23rd there was improvement in condition and physical signs; on the 26th fresh physical signs were found at the lower angle of the right scapula, but this appears to have been the final relapse in the course of the case. On January the 28th the temperature fell, and from the 30th remained subnormal; the child rapidly improved, and all the physical signs in the chest disappeared. The patient finally left hospital on March the 7th fully recovered after a fever lasting thirteen weeks and a total stay within hospital of more than four months. At least eight distinct relapses associated with fresh physical signs occurred in the course of the attack.

Case 2.—J. W—, male, aged 1 year and 6 months, admitted to the Hospital for Sick Children, Great Ormond Street, on April the 9th, 1906.

Seven weeks before being brought to hospital the child had had measles followed by bronchitis. Systematic physical examination showed some limitation in movement of the left side of the chest. At the left base posteriorly pneumonic consolidation was present.

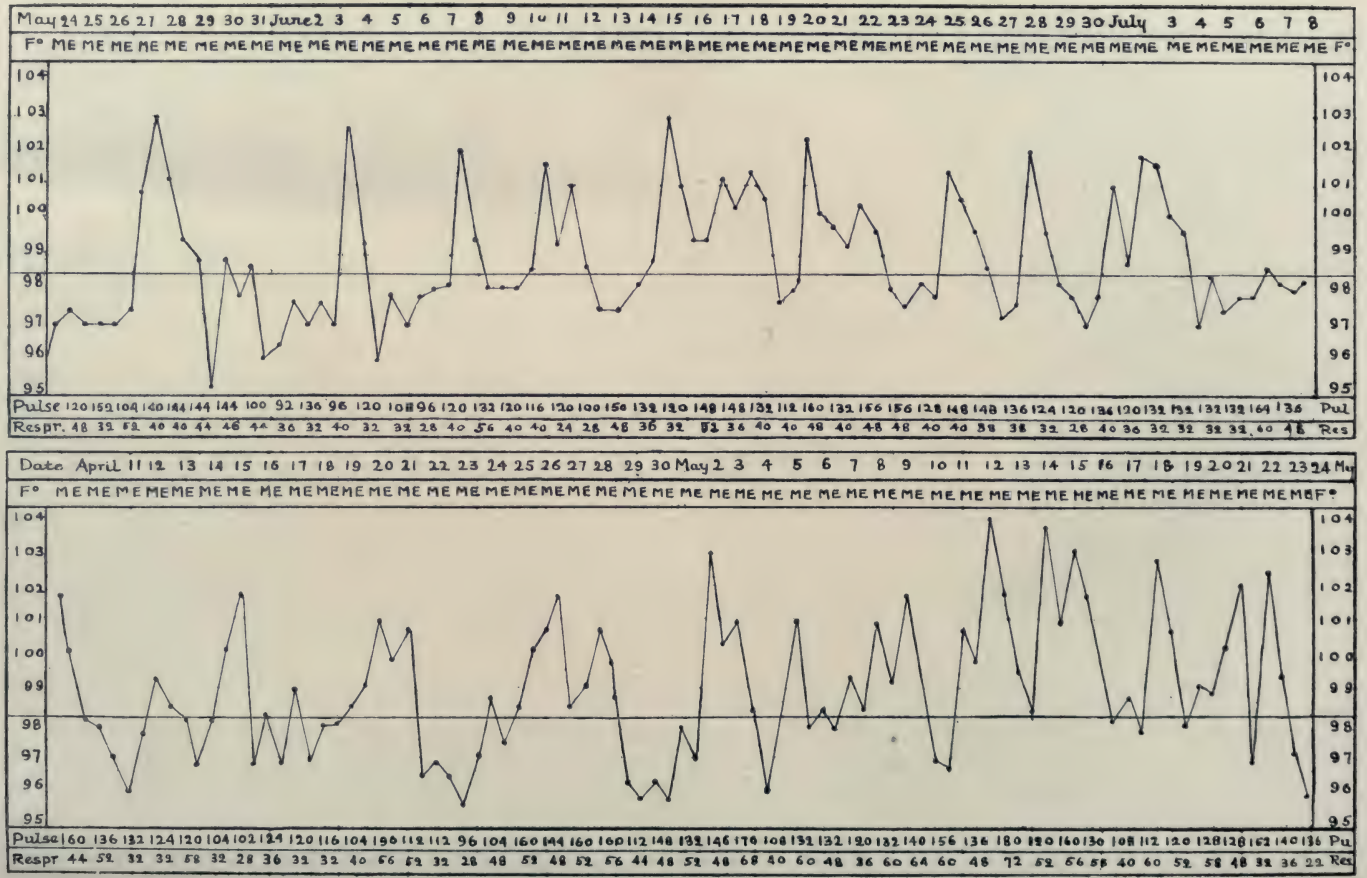
On April the 17th the temperature was still irregularly raised, but the child did not seem distressed, and he had actually gained a quarter of a pound in weight.

Examination of the chest showed some pneumonic infiltration at the right apex and an extensive pneumonia occupying the greater part of the lower lobe of the lung on the left side. Over this area the physical signs were such as to suggest the possible presence of a fluid effusion. Breath-sounds were scarcely audible, vocal resonance was greatly diminished and no added sounds were heard, but the heart was not displaced.

On April the 23rd signs at the left base were less well marked, but three days later there was such definite impairment on percussion at the left base that exploratory acupuncture was performed just below the inferior angle of the left scapula. Only a few drops of blood-stained fluid were withdrawn.

As the result of a severe relapse ten days later, the whole of the left lung had become the seat of pneumonic consolidation, whilst there was a well-marked compensating emphysema of the right lung, and of that part of the anterior margin and apex of the left lung which had escaped infection.

In addition, pus was discharged from the left ear. The spleen


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Case 2.—J. W—.

was enlarged, so that its lower border could be felt one inch below the left costal margin.

Uncertainty still existed as to the presence or absence of an effusion into the left pleura. In view of the extreme importance of early drainage in empyema thoracis the left pleura was again explored; the result was negative.

From May the 3rd until May the 22nd the temperature rose, sometimes remaining over 101° F. for several days, at others descending to 96° F., but never remaining at or below normal for so long as twenty-four hours. Gastritis and occasional vomiting were associated with the high and long-continued pyrexia; as a result the child lost 1½ lb. in weight.

On June the 14th the temperature rose to 103° F.; respirations, 48 per minute, were laboured but suppressed and the cheeks flushed.

Signs of early consolidation appeared at the apex of the right lung. A week later the child seemed to be improving somewhat, and the signs at the left base had completely disappeared, but the following day fresh signs of pneumonic infiltration appeared at the lower angle of the right scapula and at the back of the chest over the apex of the right lung.

On July the 3rd the temperature fell to normal and no fresh pyrexial attack developed. The child gained steadily in weight, was out of bed on July the 13th, and out of doors on the 20th.

On July the 28th it left hospital completely recovered, and nothing has been heard of it since. (*Vide* chart.)

Case 3.—L. H—, female, aged 1 year and 8 months, admitted to St. Mary's Hospital, March the 8th, 1911.

On February the 24th, twelve days before admission, the child was suddenly taken ill with cough, shortness of breath, and vomiting. On admission, she was found to be fairly well nourished, face very flushed, no herpes, breathing at 60 per minute, with a short expiratory grunting noise. The right middle and lower lobes of the right lung were consolidated. Leucocyte count 50,000 per c.c. No meningismus. Urine contained no albumin.

From the twelfth to the twenty-fourth days of the disease the temperature was rather irregular, dropping on two occasions to normal. After this the temperature remained normal for four days, the respirations sinking to 26 per minute.

During the fifth week of disease (twenty-eighth to thirty-fifth days) there was another wave of pyrexia, associated with some spread of the pneumonia into the lower part of the right uppermost lobe.

During the sixth, seventh and eighth weeks the temperature ran a very irregular course, reaching normal on nine occasions but never remaining normal for more than thirty-six hours. The signs in the lungs showed no variation nor did the course of the fever suggest that fresh areas of pneumonia were occurring. The signs of consolidation in the right lung remained, and the percussion note at the right base was extremely dull and very resistant. On several occasions the right base was explored with a needle, once thoroughly under an anæsthetic, but no pus was obtained at any time. A skiagram afforded no evidence of pleural effusions. During these weeks the child was losing weight and was very seriously ill. It was noticeable that there was a very extensive growth of soft downy hair on the cheeks and upper lip, down the back and on the arms. This growth had occurred during the illness and was not present on admission.

During the eighth week a pure growth of pneumococcus was obtained by puncturing the solid lung. From this a vaccine was prepared and doses of from 3 to 7 million organisms were given about twice a week.

During the ninth week the temperature became of a regular swinging type, with a difference of 5 to 6 degrees between the morning and evening readings. The pyrexia, which lasted eight to twelve hours out of the twenty-four, was associated with marked flushing of the cheeks, much tachypnœa, and with grunting expirations, giving the clinical picture of acute pneumococcal toxæmia.

From the tenth to the thirteenth week the condition improved. The child put on weight, and during the afebrile periods became able to sit up and play with her toys. The temperature became much less regular, although it still showed a good deal of swinging variation. The afebrile periods gradually lengthened and lasted one, two, or three days, while the pyrexial attacks became shorter.

During the twelfth and thirteenth weeks the temperature was rather more sustained but it was not high (102° F.). At this time signs of consolidation were found in the lower lobe of the left lung. During the previous few weeks the signs at the right base had been slowly disappearing, and only some impairment of note was left there.

At the end of the thirteenth week (ninetieth day) the temperature reached normal for the first time for ten days, and from this time onwards convalescence proceeded satisfactorily with no further rise of temperature. The child began to lose the growth of hair which had developed, there being a notable diminution of this in the next

three weeks. The last abnormality in the lung to disappear was a generalised condition of slight bronchitis.

Case 4 corresponds in many respects with Cases 1, 2 and 3, but differs from them in being neither so prolonged nor so severe. In this case the earlier attacks of pneumonia were each associated with definite new physical signs, but in later attacks, though symptomatically well defined, the temperature was seldom raised above 100° F., whilst on physical examination it was difficult to discover that fresh areas of lung-tissue were involved.

P. S—, male, aged 10 months, was admitted to the Hospital for Sick Children, Great Ormond Street, on February the 2nd; it was stated that two days before admission he had been taken suddenly ill with high fever and dyspnœa.

On examination of the chest it was found that the lower lobe of the right lung was consolidated, and that there was diffuse bronchitis and perhaps an early stage of infection of the peribronchial alveoli at the left base.

On the second day after admission temperature fell to normal, but ten days later the temperature again rose, and during the next six weeks five distinct relapses, associated with new physical signs, occurred.

At the end of the sixth week of illness attention was called to the curious aspect of the child. At no time of more intelligent cast of countenance than is commonly met with in his class, he seemed gradually to become more and more listless and inert. His hair, which, on admission, had been profuse, became straight, coarse and luxuriant, and spread downwards over his brow in the manner described as a "widow's peak." His lashes and brows became long and coarse. He developed a growth of hair over the back—particularly the scapulæ and along the vertebral spines and on the elbows and arms. His subcutaneous tissues became thickened, his complexion pale and earthy coloured. In fact he came to have the strumous appearance characteristic of children suffering from a very chronic form of pulmonary or abdominal tuberculosis.

On March the 23rd, on considering the prolonged duration of the case together with these remarkable changes, it seemed possible that the infection might be due to tubercle bacilli. An attempt to elucidate this was made by applying von Pirquet's cutaneous tuberculin test: there was no response to the inoculation.

Three further relapses occurred at intervals of a few days, but on April the 8th the temperature had fallen to normal and all signs of consolidation of the lungs had subsided.

The patient left hospital on April the 20th completely recovered. The illness had lasted only nine weeks—a considerably shorter period than in the three previous cases described. The clinical characters of the case, however, were so similar to those already described that it was considered probable that the child would remain free from pneumonia, if not for the rest of its life, at least for a very considerable period of time.

We were not a little surprised, therefore, when, on May the 22nd, the mother again brought her child to hospital suffering from pneumonia.

From the time when it left hospital until three days before readmission the child had been in good health. It had then become fretful, listless, feverish at night, and the following day breathed with just the same characteristic grunting expiration as had attracted the mother's attention at the onset of its illness in February. She was suspicious, therefore, that it was again suffering from pneumonia and accordingly brought it to hospital.

On readmission there was no doubt that the child was again suffering from an acute pneumonia. He was restless, his skin was hot and dry, his mouth and tongue were parched and covered with sores, and there was a crop of herpetic vesicles on his lips; he was suffering from marked dyspnœa, with short dry cough and considerable cyanosis of the lips and face.

In order to ascertain the nature of the organism responsible for the attack, an area of consolidated lung was explored; the pneumococcus was grown in pure culture from the fluid so obtained.

After May the 30th no further rise in temperature occurred. The patient made uninterrupted recovery and left hospital on June the 14th.

He had gained weight while in hospital and appeared none the worse for his experience.

His acquaintance with pneumonia was not at an end, however. Nearly a year later, in April, 1912, he was again brought to hospital at night with a precisely similar attack of acute pneumonia, the consolidation being localised at the right base and lower angle of the right scapula with scattered crepitant sound audible below the right clavicle in front. His spleen was enlarged and palpable.

Temperature fell by pseudo-crisis. On April the 8th it rose again to 102° F. and then fell, together with the pulse and respiration-rate, by lysis to the normal level, at which it remained till the patient's discharge on April the 21st; the spleen was then no longer to be felt.

So far as the type of disease is concerned, all four cases quoted

alike appear to have been primary pneumonias. In Case 1 the child had been unwell during several days before the sudden attack of pneumonia came on.

In Case 2 the child had certainly suffered from measles and bronchitis seven weeks before, but the interval between its attack of measles and the comparatively fulminant onset of pneumonia was sufficiently great to negative the possibility of the pneumonia being a direct consequence of morbilli. Furthermore, the local distribution of consolidation in the lungs and the absence of generalised bronchitis were very unlike the condition commonly present in the broncho-pneumonia which follows measles.

In Cases 3 and 4 the onset of the illness was definite, sudden and unassociated with previous illness. Further, the character and extent of the consolidated areas support the view that in each case a lobule or series of lobules were successively the seat of disease.

The type of disease under consideration may, therefore, be described as a primary lobular relapsing pneumonia.

No further inference can be drawn as to the spread of the disease from lobe to lobe. In the early attacks the base of right and left lung was commonly affected. Infection frequently occurred in the neighbourhood of the lower angle of the scapula, an area of lung which is frequently the seat of consolidation in air-borne infections, owing to the fact that it corresponds very nearly to the distribution of one of the main bronchioles which convey air to the lower lobe.

As relapse followed relapse, in every case the upper portions and even the apices of the lungs became affected.

Nor is there evidence in the cases described that an area of lung-tissue once affected enjoyed for that reason immunity from subsequent pneumococcal infection.

In two out of four cases the pneumococcus was proved to be the cause of disease ; in view of the predominance of this organism in primary pneumonias and the similarity of the cases quoted, there is strong presumptive evidence that this organism was responsible for each of the four cases recorded.

It may readily be supposed that some variation exists in individual susceptibility to pneumococcal infection of the lungs, and it is possible that one explanation of the frequent relapses in the cases described lies in the fact that the patients were possessed of a degree of resistance and response to pneumococcal infections considerably below the average.

From this standpoint, a somewhat remarkable change in the character of the disease during the thirteen weeks of its course is

significant. In the first attacks of pneumonia and in the earlier relapses bouts of pyrexia are prolonged, the temperature chart shows wide excursions, and the intervals of normal temperature are short. General disturbance is marked and dyspnœa at times urgent. Associated with each attack are definite fresh physical signs. As the illness progresses, however, the reverse condition becomes apparent; fever bouts are short, temperature never rises to a very high level, whilst fresh areas of pneumonic infiltration, if present, are very difficult to define.

In conformity with a less grave type of disease, constitutional disturbance is less and the children may actually gain weight—a point of some diagnostic and prognostic importance.

It is in the later stage of the illness that splenic enlargement may occur. Enlargement of the spleen is frequently associated with conditions in which infection of the blood-stream by micro-organisms is known to be present; even in malignant endocarditis the enlargement is often due to the septicæmia itself.

In Case 1 the swinging type of fever strongly suggested the presence of a blood infection. It is possible, therefore, that enlargement of the spleen recorded in the cases under discussion may be taken as evidence of the escape of pneumococci from the lungs into the blood-stream.

It is not to be supposed that a distinct variety of lobular pneumonia exists of thirteen weeks' duration, including eight or more relapses. At the same time prolonged relapsing cases of lobular pneumonia are not uncommon which approach in clinical characters those chosen as the subject of this thesis, and considerations based on the most prolonged cases may be applied to relapsing pneumonia in general.

Diagnosis is based largely on the occurrence of definite attacks of pyrexia, separated by intervals of normal temperature. The aspect of the patient becomes after a time of some assistance in this respect.

Reference may be made to a class of pneumonias occurring in young children, described by Dr. R. Miller,* in which pyrexia is prolonged without intermission. A variety of causes are assigned by the author for the condition, but in each of the groups considered the condition is a severe one, and mortality increases in direct proportion to the duration of the fever.

In the cases under discussion, however, the prognosis appeared to

* "Some Cases of Protracted Pyrexia in Pneumonia in Children," 'Trans. Med. Soc. Lond.,' 1910, xxxiii, p. 197.

be good. Recovery, as has been stated, was usually complete. Resolution of the consolidated areas always occurred, and the lungs regained their normal condition. Infection of the lungs in no case led to empyema. Sequelæ, such as fibrosis of the lung with bronchiectasis or secondary infection of the lung by tubercle bacilli, do not occur so far as the limited evidence goes which is afforded by the cases studied. Treatment is directed towards support of the strength of the patient, and offers no special point for discussion. The administration of brandy is a most valuable means of tiding over the severe stress of the later relapses.

Of vaccine treatment little can be said. Though exhibited in Case 3, it is difficult, in view of the evidence of the other cases, to conclude that vaccine treatment was a determining factor in bringing the case to a favourable ending.

Exploration of the lung is chiefly of value in the diagnosis of effusions. It may be noted, however, that in Case 2 improvement occurred soon after acupuncture had been performed. This experience is frequently confirmed in practice, and the question remains open to discussion and investigation as to whether local or perhaps general changes are brought about by exploration of the lung, as a result of which the patient reacts more vigorously against the organism which is attacking him.

The cases quoted are of interest in that they mark a gradation of properties amongst such diseases as smallpox in which one infection confers life-long immunity, through typical lobar pneumonia, a disease in which later attacks seldom occur, up to rheumatic fever characterised by frequent relapses, each productive of greater susceptibility to attack rather than protection from re-infection.

Though a family tendency to rheumatic fever is well known, there would seem no comparable "pneumonic diathesis" in the relatives of the cases of relapsing pneumonia described.

Of special importance are the observations which have been made on the appearance and disappearance of the so-called strumous characters in the course of a prolonged infection due to another organism than the tubercle bacillus.

Growth of hair on the shoulders may also sometimes be noted in neglected cases of empyema thoracis in which no attempt has been made to drain away the pus.

That the strumous changes are the result of pneumonic toxins seems possible, and this conclusion has been of service repeatedly in safeguarding a child suffering from long-continued pneumonia from a diagnosis of pulmonary tuberculosis until thorough investigation of

the case by physical examination, the analysis of sputum if obtainable, tuberculin reactions, skiagrams or fluid obtained by acupuncture have determined diagnosis.

The association clinically of relapsing pneumonia with tuberculosis is of value in that open-air treatment of relapsing pneumonia is suggested by it. The great success which attends open-air treatment of empyema thoracis supports this indication.

The similarity in appearance and manners between certain of the children suffering from chronic pneumonia and cretins suggests that treatment with thyroid extract might sometimes be of assistance in promoting resistance to infection from pneumococci.

In conclusion, I beg to express my sense of gratitude to Dr. A. E. Garrod for permission to make use of the records of Cases 1, 2 and 4, and to Dr. R. Miller for the loan of his notes on Case 3.

A CASE OF CUTANEOUS DIPHTHERIA.

By Wm. B. Jack, M.D.,
Kendal.

Cases of cutaneous diphtheria seem to be of sufficient rarity to be worthy of being reported, although the literature of the last twenty years contains a number of such. They are chiefly ulcers and impetiginous sores yielding organisms indistinguishable from the Klebs-Loeffler bacillus. In some cases the virulence of the bacilli has been tested and their diphtheria-producing power proved; in others, the rapid healing of chronic ulcers under antitoxin treatment indicated the true nature of the sore. These sores are usually associated with diphtheria of the throat or nose in the same individual, or in others in close contact. In institutions, for example, the condition has been found to exist fairly extensively. Thus E. H. Place, in the Boston City Hospital, found cutaneous diphtheria in such skin lesions as impetigo contagiosa, lupus vulgaris, abscesses on the neck and face, and varicella lesions. Similarly Heelis and Jacob found it in broken chilblains in children, attention being specially directed to them by the simultaneous occurrence of faucial diphtheria.

From the bacteriological point of view Prof. Kanthack put the matter thus: "The diphtheria bacillus is in my opinion widely distributed, frequently in modified forms it is true, but still in such,

as, except by artificial and imaginary criteria, such as would not be recognised in the case of other micro-organisms, cannot be separated from the Klebs-Loeffler bacillus, which even under the best condition is a highly polymorphic organism."

In connection with cutaneous diphtheria the classical writings are those of Trousseau, Daviot and Bretonneau. In the course of an investigation into an epidemic of diphtheria, Trousseau found that in certain villages the impetiginous sores of the children suddenly assumed a virulent character. Instead of the ordinary superficial scabbing, the wounds became painful, began to discharge, and a greyish membrane appeared on their surface. Usually the ulcers became chronic, with thick edges and membrane on the surface, but sometimes a spreading gangrene set in with gradual poisoning and death. Trousseau laid down the dictum that such cutaneous diphtheria was always preceded by a breach of surface; Daviot, on the other hand, is as definite in his statement that he had most commonly seen such cases occur without a previous lesion. While present-day views of bacteriology suggest that Trousseau was right, the possibility of the occurrence of cutaneous diphtheria without breach of surface, *i.e.* a blood infection, cannot be dismissed offhand.

Goodall and Washbourn describe diphtheritic pustules yielding thin pus and producing ulcers slow to heal, and often free from membrane; they also mention that primary infection of the fingers may occur.

G. C. Garratt, in a paper "On Acute Diphtheritic Whitlow in Persons apparently Healthy," reviewed the literature up till 1904 and added three cases of his own. He points out that such cases may be a real source of danger, and that, occurring as they do in persons who show no other signs of diphtheria, they are likely to escape recognition.

The following cases bear out the last statement, as the case of purely cutaneous diphtheria would not have been recognised but for its association with a case of diphtheria of mucous membranes.

On February the 20th, 1913, I was summoned to see a girl, aged 3 years. Her mother reported that the child had had "sores on her face" for about three weeks, and a "cold in her nose" with discharge for about two weeks. She had been playing about the house till the evening before, when she seemed ill, and became hoarse. It was also stated that two weeks before that day, a cat had scratched the child's forehead. The cat was a clean one, and not ill, so far as is known. The scratch did not suppurate.

Condition February the 20th, noon: Temperature 102° F., pulse

120; respirations somewhat forced, with some retraction of the lower ribs. There was a frequent cough, croupy in character, with hoarseness. From both nares there was a purulent discharge. Excoriation was seen below both nostrils, but no other sore on the face. The throat was clear so far as I could see, and there was no enlargement of cervical glands. There was a smell from the patient suggestive of diphtheria. A swab was taken from the nose for examination.

The child became rapidly worse. At 6.30 p.m. the temperature was 102° F., the pulse weaker, and the eyes were sunken. For the first time there had been bleeding from the nose. The respiration was more embarrassed, and the child had been struggling for breath.

At 9.30 p.m. 4000 units of diphtheria antitoxin were given.

At five next morning the child died.

The swab showed almost pure culture of diphtheria bacilli.

Mrs. P—, aged 28 years, the child's mother, said she had been feeling ill for a week. On February the 13th she knocked her left elbow on a piece of furniture; later, on that day, she observed a red spot above her elbow, and thought she was going to have a boil there, as it felt hot. That evening she "shook all over, and could not get warm in bed." For the next four days she was confined to bed with headache, pains in the limbs and general malaise, which she believed was due to influenza; while she was in bed the skin of the sore elbow broke without her observing it (there being no sense of relief of tension as in a boil). An ulcer has continued since then. On the third day of her illness she observed a similar sore spot, one inch above the right elbow, which also turned into an ulcer.

February the 20th: She was feeling much better than she had done. Temperature normal, pulse 72, no sore throat (nor has there been any). On the tip of the left elbow was an ulcer, less than a threepenny piece in size, with a sharp circular edge, and with a floor of soft granulations, with some yellowish discharge. The right arm showed a similar but smaller ulcer, one inch above the olecranon. Both ulcers were very tender. A swab from the left was taken and showed diphtheria bacilli. No swab was taken from the ulcer on the right arm.

Two thousand units of antitoxin were given on the 21st and the ulcers were painted with phenol and dressed with boracic lotion. Although carefully treated healing took place very slowly, and it was six weeks before the process was complete.

In order to test the virulence of the organisms a second swab was taken a week after the first, but no diphtheria bacilli were found.

The patient's general condition kept good, and no post-diphtheritic sequelæ have arisen.

In reference to these cases several points call for comment. First it must be noted that the child had sores on her face before she had a discharge from her nose, and in view of the existence of diphtheria bacilli in many cases of impetigo this route of infection is a possibility. Against this is the fact that except for the excoriations below the nares the sores had healed at the time the child became dangerously ill.

No great stress can be laid on the scratch on the brow by the cat, as that did not suppurate and was not apparent when I saw the child. Still, the possibility of the cat being a carrier must be allowed. There was no other case of diphtheria in the village where the patients stayed, so far as is known.

The child's case is included here chiefly on account of the mother's, as the latter doubtless received her infection from the former. The question of chief interest is: Were the mother's lesions diphtheritic from the outset? The child's nasal discharge of two weeks' standing would provide plenty of infective material, and as the mother was in the habit of resting her bare elbows on the table it is easy to conceive of these being brought in contact with diphtheria germs. Any abrasion of the skin is, however, hypothetical. In view of other recorded cases (none of them on the same site), I am of the opinion that these were primary diphtheritic pustules, and in view of this have considered the case worthy of record.

References.

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(2) Garratt, G. C.—"Acute Diphtheritic Whitlow in Persons apparently Healthy," 'St. Bartholomew's Hosp. Journ.,' 1904, xii, p. 35.

(3) Goodall and Washbourn.—'Manual of Infectious Diseases,' 2nd ed., 1908, p. 109.

(4) Heelis, R., and Jacob, F. H.—'Brit. Med. Journ.,' 1906, i, p. 556.

(5) Kanthack, Prof.—"A Series of Four Cases of Cutaneous Diphtheria," 'Lancet,' 1898, i, p. 1458.

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Philadelphia Pediatric Society.

June the 10th, 1913, Theodore Le Boutillier, M.D., President.

Cerebellar Ataxia.—Dr. Charles W. Burr presented this case, which was interesting as he was not altogether sure of the diagnosis. The boy is

now twelve years old. Birth was normal. He was breast-fed. At one year he had a convulsion while teething. The mother says that he has never seemed really well since the convulsion, but is unable to give any clear account of his illness. He did not learn to walk until eight years old. He has never talked well. At present he exhibits markedly ataxic gait; good station with eyes open or shut; no ataxia in the arms; slight lateral nystagmus on looking to the left; at times slight nystagmus when eyes are at rest. The fundi are normal. The knee-jerks vary from time to time; ordinarily they are very marked, sometimes they appear decreased. When decreased, it is due to the fact that the boy is inhibiting movement. Stroking the outer side of the right sole causes extension of the great toe and slight extension of the small toes. Stroking the left sole causes flexion of all the toes. Speech is somewhat thick. There is no facial paralysis and no palsy of the tongue. He has had no schooling and is very ignorant, but his mental power is much better than appearances indicate. Dr. Burr at first thought the case one of pure cerebellar ataxia, but after further study of it concluded that it was one of those instances of combined cerebellar and posterior cord disease. The case is not a familial one.

Cases of Congenital Pyloric Stenosis.—Dr. Levi J. Hammond.—Wide-spread interest in congenital pyloric stenosis began in 1888, and has held a conspicuous place in the literature dealing with impaired gastro-intestinal drainage with increasing interest up to the present time. There seems to be no controversy between pædiatrist and surgeon as to the frequency of its occurrence, though there still exists a reasonable difference between them as to the wisdom of placing all degrees of stenosis in the surgical category. The condition as an entity becomes perfectly clear when we keep before us the embryologic and anatomic development and physiologic function of this portion of the digestive tract. Congenital stenosis may be accounted for through vice in development of the organ itself, or defect in the development of some of the determining organs with which it shares in the process of formation, as, for example, the liver, the formation of both of which is from the right primary foregut. This defect may occur as an inverse twisting or a reverse growth of the longitudinal or circular fibres, or both. It seems possible for the rather intricate anatomic arrangement of this organ to meet with disaster in its embryologic development, either in defect of structure alone or by faulty position in which it may be placed by the liver, which is claimed by some biologists to influence the pyloric development through a shortening or twisting of the primary foregut. It is therefore not uncommon to meet such co-existing lesions as hernia, dilatation of the colon, cardio-vascular disease and supernumerary organs. In none of Hammond's patients was there visceral transposition. Anatomically the pylorus is formed by a reduplication of mucous membrane from the stomach, intermixed with muscular fibres having a definite function of dilatation and contraction. These muscular fibres are aggregated into a thick circular ring, the longitudinal fibres and serous membrane taking no part in the formation of the ring, though they pass directly over it. The orifice differs greatly in shape; it is occasionally oval; sometimes a circular fold is replaced by a crescentic one, placed one above the other below the orifice; more rarely there is but one crescentic fold. There is no organ in the body the position and shape of which presents more frequent alterations and possibilities of anomalous changes than the pylorus.

The pathogenesis still lends itself largely to a theoretic discussion. The

problem must involve a consideration of those factors entering into developmental tissue defects H. I. Nicoll says it may be the result of a primary congenital developmental aberration, possibly connected with the junction at the pylorus of two different processes of development; or it may be the result of congenital hypertrophy of the muscular walls of the pylorus secondary to antagonistic and inco-ordinate action of the stomach on the one hand, and the walls of the pylorus on the other; or it may be dependent on functional disorder of the gastric nervous system; or it may be the result of spasmodic contraction, arising from gastric irritation after birth and therefore not congenital; or the condition may be the result of a chronic inflammatory process. Neither of the last two theories could be assigned by those who have had the opportunity to study the actual pathology as found on the operating table or under the microscope. The babies are, as a rule, plump and well formed at birth. Abnormalities in development are at times found, being analogous congenital anomalies. More than half of the recorded cases were breast-fed babies. The earliest symptom is vomiting, beginning soon after birth or delayed several weeks; at first only simple regurgitation after feeding, later persistent and unyielding to all remedies. As the dilatation of the stomach increases, vomiting may be delayed until after two or more feedings, when the entire quantity will be expelled. It is projectile in type, and is not believed to be accompanied by nausea. If the food has been in the stomach some time it will be ejected partly digested, which is proof that the digestive power of the stomach is not at fault. If the occlusion is not complete, there may be some bile staining the vomitus. The epigastrium becomes prominent, due to the dilated stomach, while the hypogastrium is scaphoid because the intestines are empty. If occlusion is not complete, scanty stools will be passed occasionally; when complete, the stools will consist mainly of bile-stained mucus. After feeding, the peristaltic wave of the contracting stomach through the thin abdominal wall can be plainly observed rolling from cardia to pylorus. At times the tumour can be felt in the region of the pylorus, though more often the liver, which is invariably enlarged, so covers it over as to prevent its being palpated. In two of Hammond's cases the tumour could certainly not be felt; in one it was doubtful; in the fourth it was distinctly palpable. The peristaltic wave was typical in all. The other symptoms are those incident upon persistent vomiting, such as loss of flesh, progressive emaciation, exhaustion, subnormal temperature, and the classic picture of marasmus. That functional spasm plays a considerable *rôle* in the production of mere symptoms cannot be doubted. The alternating improvement and relapses commonly seen would indicate it, as would also the cases believed to be cured by medical treatment. The types, from a diagnostic standpoint, may be grouped into three classes: those in which marked hypertrophy exists, with little, if any, spasm; those in which a moderate degree of hypertrophy is present with spasm as the major factor in the occlusion; and an intermediate class, when both exist, but neither the hypertrophy nor the spasm is intense. Even with greatly thickened walls there is not of necessity complete obstruction; the degree of hypertrophy and of spasm varying widely in different patients. It is logical to suppose that patients in whom the signs and symptoms have been typical of pyloric obstruction, yet which recovered under purely medical treatment, were those in whom spasm had been the most prominent element and the degree of hypertrophy moderate. It is, however, inconsistent with our knowledge of the function of the pylorus to suppose that any

degree of hypertrophy, even though it be minor, could exist without causing symptoms of impaired gastric drainage. Some physicians question whether these cases are truly congenital, or whether there is hypertrophy secondary to spasm, the latter being post-natal, from irritating food or hyperacid secretion. The demonstrable existence of symptoms so soon after birth in a healthy breast-fed infant would seem to discourage such a belief, and there must surely be but few persuaded to the belief than an infant nursing from the breast of a healthy mother could supply the stomach with sufficient irritation from the food taken to produce symptomatic spasm. Especially is such a belief difficult to maintain when the operating table demonstrates the existence of such definite pathology. It is conceivable that functional spasm might occur in adults from long-continued indiscretion in diet, which so alters the normal gastric secretion as to produce irritation, but even in such an instance Dr. Hammond believes that some degree of hypertrophy is present and the actual underlying cause of the spasm.

The differential diagnosis must be made from simple recurrent vomiting due to improper or over feeding, from extrinsic causes such as tumour in neighbouring tissues like retroperitoneal growths, and from visceral adhesions. It is claimed by some that the presence of acetone and diacetic acid in the urine is a point of differential value in distinguishing cases of simple recurrent vomiting from pyloric spasm. In some cases differentiation cannot be made unless it be in the lesser severity of the symptoms, less rapid and less progressive loss of weight, which would be expected were the obstruction away from the pylorus and incomplete. Where spasm is the major factor in the obstruction, marked improvement with sudden relapses should be the most classic differential point. A definite tumour is always demonstrable, consisting of a circular indurated growth, occupying the entire circumference of the pyloric site; in some instances it is more or less cylindrical in shape, extending well into the first portion of the duodenum. Its serous surface is smooth and usually not adherent to the neighbouring tissues. Microscopic study shows a great increase in thickness of both circular and longitudinal fibres, the greatest thickness being noted in the circular fibres. Considerable proliferation of the connective tissue is also demonstrable, the thickness in some instances amounting to two or three times that found in the pylorus of normal children of the same age. So extensive is this hypertrophied tissue that it would be contrary to logical reasoning to assume that either was of post-natal origin; it was present in all of Dr. Hammond's patients, from forty-two to sixty days of life; hence it could not possibly have thus developed. Two infants were born of the same parents, the boy being 42 and the girl 60 days old when seen. From history and symptoms it is believed that total obstruction had existed in the first case eight and in the second four days before operation. The third infant, a girl, was 50, and the fourth, also a girl, was 56 days old when first seen. The history in the former was eight, and in the latter six days, of total obstruction before operation. All were emaciated to the greatest possible degree, but promptly gained in weight and health after operation had established free gastric drainage. As this condition is surgical from the onset, medical treatment should not be employed longer than is necessary to establish the diagnosis. This applies alike when the cause is either one of persistent spasm or hypertrophy, for even though the obstruction be due to spasm alone, which is hardly conceivable, such patients die from inanition if the spasm is intense, prolonged and frequently recurrent; hence it is as dangerous as hypertrophy. Within a few hours after operation has established free drainage, nourishment can be taken in small quantities,

and increased to full feeding in three days. Surgical treatment should consist in either pylorectomy or posterior gastro-enterostomy ; the former is indicated where the pathology is demonstrably localised. As this is not often possible, posterior gastro-enterostomy is to be chosen to meet the greater number of indications. The early recognition of the precise nature of the condition and prompt operative treatment before tissue cell resistance has too greatly ebbed away should result in the recovery of at least 80 per cent. of patients.

Unusual Neurosis in a Child.—Dr. A. A. Howell, by invitation, reported this case, in which a high-strung child, aged 8 years, from the initial symptoms of vomiting and "water-brash" developed a neurosis. The chief manifestation of this neurosis was a spasm of the muscles of the tongue and throat, similar to, if not actually accompanied by, laryngospasm. From a therapeutic standpoint especial emphasis was laid on the fact that while carefully directed treatment at home proved futile, under the advantageous surroundings of a hospital it was entirely successful.

Dr. J. Claxton Gittings said that it was not possible to describe adequately the miserable condition of this boy when at his worst. He had attacks at intervals of fifteen to twenty minutes by day and ten minutes at night, with not more than two hours' continuous sleep. While the diagnosis of a neurosis is a dangerous one to make, the elimination of all adequate organic causes justified it. The only possible point of reflex irritation was a very small amount of adenoid tissue in the nasopharynx ; the attacks began before the acute coryza, however, so that the adenoids can hardly have originated them. While hysterical vomiting is not so rare, laryngospasm in a boy of 8 years inducing vomiting, is unique in our experience. Nor will hysteria explain the greater frequency of the attacks at night, which robbed the boy of his sleep. Whatever the exciting cause may be in these cases, Dr. Gittings has found that the neuroses are most apt to occur in the type of nervous child who is excessively pampered and never adequately controlled, who never learns in childhood, at least, to exercise self-control. The good results of hospital treatment are due primarily to the "moral impression" which, in turn, makes the strict regimen possible.

Dr. Howell added that, at times, during the course of this boy's treatment at home, it would seem that satisfactory progress was being made, when relapses would occur. These were at first unexplainable, but upon close questioning of the mother it was found that the boy, who was supposedly quite at home, had in reality been catching for his brother, a pitcher. It was also found that at these times he would slip off to see base-ball games, and in all probability, without his parents' knowledge, play himself. The continued talking of the father, in the boy's presence, of his symptoms and condition and the parallelling of this with those of his brother who had died could not be stopped and undoubtedly did harm. The above are cited as examples of the hopelessness of gaining complete control of a case at home unless the unreserved co-operation of patient and family can be depended upon.

The National Association of Teachers of the Deaf.

A great advance in the education of the deaf child was made at the Eighth Biennial Conference of the National Association of Teachers of the

Deaf, held in Glasgow from July the 29th to August the 1st. There can be no doubt that the opposition to the full expansion of the oral system of teaching the deaf is growing less, and becoming more and more confined to those persons of the narrow calibre and limited reasoning powers that supply all opponents of progress. Oral teaching is, primarily, an effort to furnish that physiological training of the speech centres of which, by reason of his deafness, the deaf child is deprived. For years it has been an astounding anomaly that teaching for the blind and normal child has been compulsory at the age of five, whilst that for the deaf child is delayed until seven. The natural corollary of scientific oral teaching is that the earlier it commences the better will be the results. Hence the resolution, passed by between 60 and 70 votes to 13, at the Glasgow meeting, marks an important advance in deaf education. This resolution was as follows: "That this Conference is of opinion that the compulsory commencing age of deaf children should be brought into line with that of normal children and of blind children; that, provided suitable arrangements are made, deaf children should be permitted to attend school from the age of three years, and that grants should be payable in respect of such children attending school."

Among other work done was a long and sympathetic discussion on co-operation between the teacher and the doctor, introduced by Mr. Macleod Yearsley, of London, upon which occasion the chair was occupied by Dr. Kerr Love, of Glasgow.

Abstracts from Current Literature.

Medicine.

Three cases of teeth present at birth (*'Journ. de méd. de Bordeaux,'* 1913, XLIII, *p.* 263).—**P. Balard** and **C. Commes.**—During a period of ten years among 17,578 children born in the Maternité de Paris, only three had teeth at birth, and during the last twenty years at the Bordeaux Clinique d'Accouchements there were only two cases among 10,000 births. The writers' first two cases occurred in a male and female infant respectively. A lower median incisor was seen in each case on the day after birth and the following day its fellow appeared. As suckling was thereby rendered painful to the mother the teeth were extracted. Neither child presented any other anomaly and their family history was negative. In the third case, that of a male infant, the two lower median incisors were present at birth but fell out spontaneously three weeks later. The child also had a congenital cyst of the iris. Microscopical examination of the teeth of the first two cases showed they were of the nature of a teratoma. J. D. ROLLESTON.

Caries of the milk teeth (*'Brit. Med. Journ.,'* 1913, I, *p.* 992).—**H. E. H. Tracey** makes the following recommendations regarding teeth extraction in children: (1) When a tooth is painful on mastication, either from pulpitis or periodontitis, extract. (2) When the tooth has an abscess or chronic sinus, extract. (3) If the tooth has an interstitial cavity on the side near a permanent tooth, remove before the latter is affected.

J. ALLAN.

The relationship between enlarged tonsils and carious teeth (*'School Hygiene,'* 1913, IV, *p.* 24).—**H. Maughan Brown** gives a table showing that there is a greater percentage of children with enlarged tonsils among those who have carious teeth than among those who have none. On the whole the greater the number of carious teeth the greater the percentage with enlarged tonsils. Also there are more cases of markedly enlarged tonsils among those with carious teeth than among those without.

MACLEOD YEARSLEY.

Auto-vaccination of the tongue (*'Berl. klin. Woch.,'* 1912, XLIX, *p.* 2407).—**W. Lublinski.**—A girl, aged 2¼ years, five days after vaccination, in addition to the normal evolution of the vaccine pustules on the arm developed considerable swelling of the tongue and had difficulty in taking her food. On the eighth day the temperature was 101·8° F., the cervical glands were enlarged, and the swollen tongue showed seven patches between the lips and the circumvallate papillæ. The lesions were surrounded by a red areola, were covered by a yellowish-white deposit, and on the following days discharged a yellowish fluid like that from the vaccine pustules on the arm. Inoculation had taken place by the child touching her arm directly after vaccination and putting her fingers in her mouth. The tongue was treated by applications of alum solution and complete recovery took place. There are no other instances of auto-vaccination of the tongue, but there are two cases on record where the mother's tongue was inoculated by kissing the arm of her recently vaccinated child (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, VI, *p.* 36).

J. D. ROLLESTON.

Neoplasms on the dorsum linguæ in infants (*'Riv. di Clin. Pediat.,'* 1913, XI, *p.* 20).—**M. Pincherle** describes two cases. In one an enormous aphtha was seen on the dorsum, irregularly oval, about 12–15 mm. in diameter, colour dirty yellow, elastic, and in volume about the size of a large bean; in the other the swelling was harder and about 1 cm. in diameter. The author considers them examples of granuloma telangiectasicum, and belonging to the category of human pseudo-botryomycosis.

VINCENT DICKINSON.

Primary purulent inflammation of the salivary glands in early infancy (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift, p.* 462).—**J. Lewin** records a case in a premature female infant, aged 14 days. The inflammation in the right parotid, which was first affected, subsided without operation; the left parotid was incised and staphylococci were found in the pus. Recovery took place (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *p.* 227).

J. D. ROLLESTON.

Congenital atresia of œsophagus (*'Am. Journ. Dis. Child.,'* 1913, V, *p.* 143).—**J. Brennemann** reports three fatal cases of the "inosculating" type in which the upper end of the œsophagus ends in a free dilated pouch, while the lower end passes from the stomach into the trachea. The symptoms were the same in all, viz. vomiting, cyanosis, emaciation, constant flow of saliva from mouth and frothy discharge from nostrils. In the first case jejunostomy and in the second gastrostomy was performed, and in the third no operation. The first case showed two ureters on each side and microscopical anomalies of the spinal cord, and the third case had a single horse-shoe kidney. All had broncho-pneumonia. A review of the literature is given (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1912, IX, *pp.* 429, 553).

J. D. ROLLESTON.

Prolonged inanition following cicatricial stricture of the œsophagus cured by internal œsophagotomy and dilatation (*'Bull. et mém. Soc. méd. Hôp. de Paris,'* 1913, xxxv, *p.* 1195).—**B. Weill-Hallé** and **Abrand.**—A girl, aged 6½ years, swallowed a solution of caustic potash in mistake for white wine in February. Recovery from the acute symptoms of poisoning took place within a fortnight but persistent vomiting after food occurred. Extreme emaciation ensued, so that when seen by the writers in the following October her weight was that of a baby eleven or twelve months old—9 kilos instead of the average 17 kilos. Œsophagoscopy showed the presence of three strictures—one at the upper end, another 7 or 8 cm. below, and a third at the cardiac end. The second stricture, which was 7 or 8 cm. long, was treated by internal œsophagotomy and rapid recovery took place.

J. D. Rolleston.

Rumination in infants (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift*, 1913, *p.* 116).—**H. Brüning** narrates a case in a child, aged 3 months, and compares the five cases described in the literature. Four occurred in females and two in males—a direct antithesis to the cases met with in adults, where only one case was in a female out of thirty-three cases collected by Wirtz. The condition commenced between the third and seventh months in all the cases: the nutrition of the children was markedly reduced. Only one case ended fatally. In none of the cases was there any history of a similar condition in other members of the family. Two were illegitimate and one was premature. In two cases the children were artificially fed. Disturbances of digestion were present in all cases before the condition appeared. The motor function of the stomach was not disturbed. Various drugs have been tried without avail, and washing out of the stomach does no good. Lust considers the condition due to a functional spasm of the pylorus; Mayerhofer, to relaxation of the cardiac end of the stomach; others, including the author, to neurosis of the motor function of the stomach.

F. R. B. Atkinson.

Gastric motility in infants as shown by the Röntgen ray (*'Amer. Journ. Dis. Child.,'* 1913, v, *p.* 345).—**M. Ladd** publishes some interesting results from the examination of a series of cases given bismuth meals. He administered two heaped teaspoonfuls of subcarbonate of bismuth in 2 oz. of milk. His examinations were by means of radiographic plates taken every half-hour. He did not use the screen owing to the risk of burns. He finds that bismuth passes out of the stomach as soon as the feeding is completed, showing that a considerable amount of food passes into the duodenum without undergoing gastric digestion. The stomach appears to pass on the greater part of its contents in from 1½ to 2½ hours. The residue remains in the stomach for 4½ to 7 hours unless food is again given, in which case the residue is got rid of much more quickly, not mixing with the second feed. The effect of alterations in the diet was also studied. It was found that when the fat or protein were given in full proportions, emptying of the stomach was delayed; but the author thinks it possible that a moderate (2 per cent.) amount of fat may act as a stimulant to gastric peristalsis.

Reginald Miller.

A case of congenital pyloric stenosis (Landerer-Maier type) in an infant and development of hour-glass stomach (*'Jahrb. f Kinderheilk.,'* 1912, lxxvi, *p.* 695).—**F. Schäfer** states that no case of this kind has been

published before the one he describes in an infant, aged 5 months. Post-mortem examination revealed a small fistulous pylorus without any development of a sphincter and the fundus and pyloric part were sharply divided.

F. R. B. Atkinson.

Hypertrophic pyloric stenosis; gastro-enterostomy at the age of 13 days; recovery (*'Bull. et mém. Soc. méd. Hôp. de Paris,'* 1912, xxxiv, *p.* 868).—**P. Fredet** and **L. Tixier.**—This is the earliest case on record of an operation for hypertrophic stenosis and also the earliest case of gastro-enterostomy. The symptoms started on the ninth day. Medical treatment was ineffectual and posterior gastro-enterostomy was performed on the thirteenth day. The writers review the literature, and give a bibliography of cases published since the monograph of Fredet and Guillemot (*vide* British Journal of Children's Diseases, 1911, viii, *p.* 334).

J. D. Rolleston.

Spasm of the pylorus and congenital pyloric stenosis (*'New York Med. Journ.,'* 1913, i, *p.* 57).—**H. Koplik** states that there are cases of spasm of the pylorus, which during life may or may not give a palpable tumour, and which at operation give a palpable tumour which persists post mortem. Microscopical examination may show the tissues to be thickened, but whether this is the result of hypertrophy or of contraction of muscle, future investigation will show. Pyloric spasm is a distinct entity and causes the same explosive vomiting as hypertrophy, and marked peristalsis with perhaps a palpable pylorus. Koplik classifies cases as: (1) Pure spasm of pylorus without any palpable pylorus, characterised by peristalsis, explosive vomiting, loss of weight and constipation, complete or relative. (2) Pyloric spasm with relative and actual stenosis and slight or marked thickening or hypertrophy of the pyloric tissues. There is explosive vomiting and constipation, complete at first, and later fæcal matter may appear in the stools. (3) Congenital hypertrophy of the pylorus with stenosis. Spasm is here present also, and the symptoms are the same as in the second group, but more severe. Koplik records examples of each variety. He considers the affection to be a neurotic one and sometimes hereditary. He mentions cases in two sisters, one of whom had two babies similarly affected. Recovery depends on the patient's resistance, the skill of treatment and the severity of the condition. Many cases of the hypertrophy recover under medical treatment alone. Cases of spasm alone never require the surgeon; the mixed ones can usually be cured medically; 90 per cent. of Koplik's apparently hopeless cases have recovered without operation, while the mortality of some surgeons is 50 per cent. Koplik thinks that the suggestive work of Cowie and Lyon on the acid control of the pylorus in infants and the mechanism of the opening and closing of the pylorus, explained by Pavloff, afford indications for feeding which should be carefully examined.

J. Porter Parkinson.

Significance of the pyloric reflex in true and pseudo-pyloric stenosis in infants (*'Amer. Journ. Dis. Child.,'* 1913, v, *p.* 225).—**D. M. Cowie** discusses the influence of the reaction of the gastric contents upon the opening and closure of the pylorus. He regards on theoretical grounds hyperchlorhydria as a likely cause of true pyloric stenosis as well as of pseudo-stenosis. He does not, however, bring forward any cases intermediate between the two conditions, and has met with only cases of hypertrophic stenosis in which achlorhydria was present.

Reginald Miller.

Intra-gastric malformation (*'Post-Graduate,'* 1912, xxvii, *p.* 1118).—**A. Bonner** considers this case unique in that bile was found in the vomit, though it turned out to be one of pyloric obstruction. It occurred in a male child, aged 4 weeks, who had digestive troubles soon after birth. On opening the abdomen the stomach was seen to be greatly distended, so that the greater curvature reached to the symphysis; posterior gastro-enterostomy was performed successfully, and ten days later the child went home; after a week of indifferent care it died. At the necropsy there was found a duplication of the mucous membrane of the stomach springing from the greater curvature near the pylorus, so as to form a valve sufficiently strong to close off the pylorus altogether in the normal direction, though a reversed flow could allow fluid to pass from the duodenum into the stomach. The writer has failed to find a similar case in the literature.

J. Porter Parkinson.

Diagnosis and pathogeny of duodenal ulcer in infancy (*'Jahrb. f. Kinderheilk.,'* 1912, lxxvi, *p.* 542).—**H. Flesch.**—Of 364 cases in the Buda-Pesth Kinderasyl who came to autopsy, 11 cases, or 3 per cent., the youngest of whom was 6 weeks and the oldest 6 months, showed peptic ulcers, 10 in the duodenum and 1 in the stomach. In most the ulcer was associated with gastro-intestinal catarrh. In every case the duodenal ulcer was situated above the ampulla of Vater. The duodenal mucosa in this position is especially liable to peptic ulcers in atrophic children, partly through absence of the antipepsin present in the stomach, and partly because it is not protected by the alkaline bile and pancreatic juice. Flesch reports a case in a boy, aged 3 months, suffering from severe carbohydrate food disturbance. The diagnosis of duodenal ulcer was made during life from the occurrence of bloody stools, hypothermia and collapse. Post mortem four ulcers were found in the duodenum above the ampulla of Vater.

J. D. Rolleston.

Fat and nitrogen metabolism in a case of congenital absence of the bile-ducts, with a study of ferments of the pancreatic secretion of the fæces (*'Amer. Journ. Dis. Child.,'* 1913, v, *p.* 36).—**H. Koplik** and **B. B. Crohn** find as a result of an examination of this case in a child aged 10 weeks, that (1) nitrogen metabolism is normal; (2) fat metabolism is much disturbed, and is characterised by poor absorption and deficient splitting of neutral fats; (3) the pancreatic ducts are patent and the secretion of normal strength; (4) the lipolytic ferment of the pancreas, while present, functionates weakly on account of the absence of bile-salts.

F. R. B. Atkinson.

Abscess of the liver in childhood (*'Rev. Soc. Méd. Arg.,'* 1912, xx, *p.* 684).—**P. De Elizalde** records three cases. (1) Boy, aged 5 years. Insidious onset without intestinal symptoms. Considerable improvement after operation, but ten days later the temperature rose again and remained high in spite of two further operations. Post mortem, multiple hepatic abscesses were found. The *Staphylococcus pyogenes aureus* only was found in the pus. (2) Boy, aged 3 years. History of intestinal trouble since the age of six months. Rapid improvement after evacuation of the hepatic abscess, which contained a pure culture of staphylococci and no amœbæ. (3) Boy, aged $7\frac{1}{2}$ years. Sudden onset and rapid course, with high temperature, shivering, icterus, and a leucocytosis of 32,000. Recovery followed operation. The pus was sterile. In neither the first nor the third case could the origin of the abscess be discovered.

J. D. Rolleston.

Cirrhosis of the liver in a child, aged 8 years (*'Ann. de méd. et Chir. Inf.,'* 1913, xvii, *p.* 65).—**G. Variot** and **Cailliau**.—The boy lived with its drunken parents and was always given wine to drink; he was wasted and markedly jaundiced. The abdomen was enlarged from meteorism and ascites; the liver was not enlarged, but the spleen was bigger than normal. There was œdema of the scrotum, but not of the legs. The tongue was dry, and there was occasional green vomiting not containing blood. The urine was scanty, darkish in colour, but did not contain sugar nor albumin; bile-pigment was present. There was some bronchitis and pleural effusion on the left side. The evening temperature varied from 100° to 103° F. The ascitic fluid was twice removed, first 1 litre and then 1½ litres. Death occurred in coma. At the autopsy the liver was small, weighing 382 grms., it was greenish with yellow spots, hobnailed, with slightly thickened capsule. The cirrhosis was portal and intralobular. There was much brownish pigment containing iron, but no fatty degeneration. The spleen weighed 275 grms., was large and hard. The kidneys were large, capsule not thickened and stripping easily, cortex pale and pyramids congested. Lymphocytes were seen between the glomeruli and tubules and there was degeneration of the tubular epithelium. There was some tubercular deposit in the lung. The heart was small with fatty infiltration. This is an example of cirrhosis due to the drinking of wine, but no other form of alcohol.

J. Porter Parkinson.

Acute yellow atrophy in a child aged 3 years (*'Arch. of Ped.,'* 1912, xxix, *p.* 737).—**F. Huber** reports this case and describes the pathological findings. He also discusses the literature of the subject.

F. R. B. Atkinson.

Hydatid cyst of the liver (*'Med. Press. and Circ.,'* 1913, i, *p.* 390).—**E. M. Corner** reports the case of a girl, aged 3 years and 4 months, who came under observation with symptoms suggestive of appendicular mischief. At the operation a large cystic tumour was found attached to the right lobe of the liver just to the left of the gall-bladder. The pathological report was that the tumour was a hydatid cyst.

J. Allan.

Bacteriology of the acute intestinal diseases of infancy (*'Amer. Journ. Dis. Child.,'* 1912, iv, *p.* 75).—**B. S. Veeder, R. Kilduffe** and **O. T. Denny** have studied in particular the occurrence of dysentery organisms in the stools in acute intestinal diseases of infants. The clinical cases were those classed as ileo-colitis, either acute or acute-on-chronic. Their conclusions are as follows: (1) The mere presence of a few dysentery organisms does not prove that they are the cause of the condition. It is only in the severe cases of ileo-colitis that these organisms are present in the stools as one of the predominating types, and it is these cases which show distinctive lesions of dysentery at autopsy. (2) In only about 20 per cent. of cases of ileo-colitis of infants are dysentery organisms found: in some the infection with these organisms is primary, but in others it is probably secondary. (3) Cases of ileo-colitis in which dysentery organisms are present cannot be separated clinically from those in which they are absent. (4) Streptococci are present in the stools of about 80 per cent. of the cases of ileo-colitis; probably in some instances these organisms are the cause of the condition.

Reginald Miller.

The cœliac affection (*'Dub. Journ. Med. Sci.,'* 1913, I, *p.* 241).—**H. C. Drury.**—A girl, aged 3½ years, came under observation for recurrent attacks of diarrhœa, which resisted treatment and had been becoming more frequent. She had wasted greatly and had become weak and listless. There was no vomiting. The abdomen was much distended and she passed three or four very copious motions every day. The motion was in appearance and consistence just like porridge, but whiter, and the odour was quite unnatural and extremely disgusting. No treatment did any good until the child was fed on raw meat and meat extracts. Later she was given thin toasted bread, finely shredded lean meat, fish, beef-tea, chicken broth and water. Under this dietetic *régime* the alvine discharges became normal and in the course of two or three weeks she improved greatly. She became much brighter and put on weight. The cause of this disease is not known. J. Allan.

Ætiology and pathology of dysenteric enteritis in children (*'La Pediatria,'* 1912, XX, *pp.* 505 and 561).—**M. Lo Re** publishes his researches on this question as his thesis. Out of ten cases he was not able to isolate a single example of that bifid form of bacteria which constitutes a large part of the intestinal flora of children under normal conditions. In the cases referred to various micro-organisms were found; in two cases the streptococcus of Hirsch and Libbmann; in one case a strepto-coli-bacillary combination; in three cases *B. coli*; in one case *B. perfringens*; in one case *Proteus vulgaris*; in two cases Shiga's dysenteric bacillus. The origin of the infection could not be ascertained in most of the cases. The disease seems to have some connection with the saprophytic organisms of the digestive tube, especially with *B. coli*, either the common variety, or the para-coli, also with streptococci, especially those of Hirsch and Libbmann, and with *proteus*, either isolated or in symbiosis with some other organism. In such cases it must be admitted that the said microbes require special pathogenic properties through changes in the intestinal condition. The disease has also some relation with the anaërobic *perfringens* and with dysenteric bacilli. It seems, therefore, that there is nothing specific about the ætiology of dysenteric enteritis, and that it may be caused by different microbes, and these microbes may cause either the disease under discussion or any other form of infantile enteritis. Whatever the cause, the symptomatology of the disease remains the same. Vincent Dickinson.

Acute colitis in children (*'Progrès méd.,'* 1912, XL, *p.* 521).—**Hutinel** and **Nobécourt** made a communication on this subject at the Thirteenth Congrès français de médecine. The best classification is based on the character of the evacuations. *Acute mucous colitis* has three forms: the benign, which lasts only a few days and is characterised by mild symptoms; the grave, corresponding to the follicular enteritis of Widerhofer, or the dysenteric of Marfan, lasting five or six days, and marked by vomiting, complete anorexia, high fever, anxious expression, dry skin, muco-purulent and bloody stools, and often ending fatally with dyspnœa, convulsions, erythema, etc. *Localised* forms are more common in adults, typhlitis and sigmoiditis, from which the differential diagnosis of appendicitis is very difficult, and may be grafted on to congenital affections of the colon such as Hirschsprung's disease. Colitis may be at the onset dysenteric; it resembles dysentery, and is associated with great pain, purging, tenesmus, and stools like frog-spawn, or dark brown and muco-purulent. Recovery is frequent. The third principal class of colitis is represented by *dry cholera*, often

caused by excess of milk diet. The symptoms comprise green vomit and stools, marked change in the facies, cold extremities, oliguria, slow irregular pulse and nervous phenomena. The secondary manifestations of colitis are numerous, *e. g.* stomatitis, tonsillitis, intestinal hæmorrhage and appendicitis, the existence of which is often not noticed, and especially periodic acetonæmic vomiting, whose origin is freely intestinal. Cystitis is common in girls and pyelitis possible; jaundice may occur. Broncho-pneumonia occurs less frequently than in other infantile affections. The nervous system often suffers, as is shown by convulsions, meningeal symptoms and even tetany and a slight spinal lymphocytosis. Neuritis of the pneumogastric has been noticed by Renon. Erythemata of a polymorphous type are common and may be associated with purpura. Lastly there may be œdemas due to retention of chlorides. The ætiology of primary colitis in children consists of three factors: faulty diet, especially too much cow's milk or eggs, affections of the nasopharynx, and contagion. Age, heredity, previous constipation also take part. Secondary colitis is due to malformations, intestinal parasites, general infectious diseases, measles, scarlatina, typhoid and even meningitis. Treatment consists in lavage with hyposulphite 50 per cent., peroxide of hydrogen 50 per cent., or nitrate of silver solution 0·20 per cent. Ipecacuanha and guarana are often efficacious. Calomel, except in divided doses of 1 to 5 cgrm., may be dangerous, and the authors prefer as a purgative either sulphate of magnesia or castor oil. The different glands may be stimulated by multiple extracts, pancreatic, hepatic, or suprarenal. In severe forms camphorated oil and serum with caffein are indicated, with hot baths or compresses. VINCENT DICKINSON.

Helminthiasis in children (*'Amer. Journ. Dis. Child.,'* 1912, IV, *p.* 378).—**W. W. Murphy** examined the stools in 102 cases of children from 2 to 12 years of age. Eight cases (6·86 per cent.) were infected with intestinal parasites. His cases were from Chicago, and show a much lower proportion of infection than the 28·57 per cent. of Schloss of New York. The *Trichiuris trichiura* was found in 4 cases, *Ascaris lumbricoides* in 2, *Tænia saginata* and *Trichimonas intestinalis* in 1 case each. Only a small proportion displayed any obvious symptoms. Eosinophilia was not constant, but when present it accompanied other clinical manifestations. Its degree bore no relationship to the type of parasite harboured. REGINALD MILLER.

The frequency of intestinal parasites in children in Rio de Janeiro (*'Arch. de méd. des enf.,'* 1913, XVI, *p.* 29).—**J. G. Faria** examined the fæces in 1238 children up to twelve years of age. Intestinal parasites were found in 662 (53·4 per cent.). The parasites were as follows: *Trichocephalus trichiurus* 446 times, *Ascaris lumbricoides* 432 times, *Necator Americanus* and *Ankylostomum duodenale* 120 times, *Strongyloides stercoralis* 58 times, *Tænia saginata* 22 times, and *Oxyurus vermicularis* 11 times. The youngest child was three months old. F. R. B. ATKINSON.

Surgery.

Congenital absence of ribs (*'Journ. Amer. Med. Assoc.,'* 1913, LX, *p.* 895).—**Carroll Smith** records the case of a female infant in whom the seventh and eighth ribs on the left side were entirely absent. The first, second and third ribs were normal but close together, while the fourth and fifth were fused. About 1·5 cm. of the sixth rib attached anteriorly to the

same length of cartilage was found in the thoracic wall without any connection of the rib or cartilage to the vertebral column or sternum. The spinal column was defective on the left side at the level of the sixth and seventh ribs, and was covered with smooth pleura at the place where these ribs should normally be attached. The ninth, tenth, eleventh and twelfth ribs were floating. The xiphoid process was bifid, and there was a slight scoliosis of the spine with the convexity to the right at the level of the defective region. The scapula was scaphoid, the ductus arteriosus patent and the foramen ovale open. In the spinal cord a double canal was found in the thoracic region. There was microscopical evidence of syphilis and signs of the disease in the family, none of whom, however, showed any abnormality of the ribs. The child died eight days after birth from pneumonia. Although the arm of the child fitted accurately into the thoracic defect, the author is of opinion that, considering the other abnormalities present and the entire absence of two ribs, the condition was due to an inherent defective development rather than to pressure *in utero*. An account of nine other somewhat similar cases is appended (*vide* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1913, x, *p.* 217). T. R. WHIPHAM.

Congenital anomalies of the umbilicus (*'Brit. Med. Journ.,'* 1913, i, *p.* 173).—**G. C. E. Simpson,** in a paper read before the Liverpool Medical Institution, described three cases of laparotomy for congenital exomphalos. In one the major part of the liver was included in the sac. In two cases of ectopia the trigone of the bladder had been implanted into the sigmoid portion of the large intestine. The one lived for four months, dying from pyelitis. The other died from the shock of the operation. The anomalies of the urachus were discussed and a case of urachal umbilical polypus was described. Cases of umbilical polypi due to abnormalities of the vitelline duct were considered. Four had been treated with success. The results of a Meckel's diverticulum were illustrated in various forms. J. ALLAN.

Congenital myxoma of the feet (*'Amer. Journ. Dis. Child.,'* 1913, v, *p.* 374).—**Mello-Leitão** records a case in a male infant, aged 11 months. At birth the feet showed two symmetrical tumours on the dorsum, each the size of a hen's egg. Their development was slow and did not interfere with the child's health. An arthroplastic operation was performed, and the child recovered, though the operation was not a great success. The tumour proved to be a pure myxoma. J. D. ROLLESTON.

Congenital diaphragmatic hernia in a three-year-old child (*'Jahrb. f. Kinderheilk.,'* 1913, LXXVII, *p.* 550).—**F. Reiss.**—The child died suddenly whilst sitting up, and on section the greater part of the stomach and the spleen were found in the pleural cavity. F. R. B. ATKINSON.

Congenital hernia of the diaphragm through the œsophageal opening, extra-pleural, and occurring in the right thorax; two cases contrasted and compared (*'Austral. Med. Gaz.,'* 1913, XXXIII, *pp.* 359–366 *and* 387–391).—**H. Rischbieth** describes two cases occurring in a child dead at full term, and in a woman, aged 82 years. The stomach, spleen, pancreas, great omentum, duodenum, jejunum and the greater part of the ileum were situated in the thorax in the former case. The hernia had a sac and was thus a "true" hernia, and had passed through a greatly enlarged œsophageal aperture. F. R. B. ATKINSON.

Absence of anus with abnormal opening of rectum (*'Journ. de méd. de Bordeaux,'* 1913, XLIII, *p.* 361).—**Petit de la Villéon** records a case in a male infant, aged 6 months, who had no anal depression, but a punctiform fistulous track opening at the base of the scrotum. The bowels could only be evacuated by repeated injections through this track. As symptoms of obstruction had occurred on several occasions, a recto-plastic operation was performed, when the rectal ampulla was found at a depth of 1½ cm. Complete recovery took place. J. D. ROLLESTON.

Duodenotomy for impacted sewing-machine needle (*'Cleveland Med. Journ.,'* 1913, XII, *p.* 193).—**J. J. Buchanan.**—A girl, aged 5½ years, was admitted to hospital four days after swallowing the needle. There had been no abdominal symptoms, and the child was well apart from an attack of whooping-cough. X rays showed the needle at the right of the median line in front of the bodies of the third and fourth lumbar vertebræ. The abdomen was opened the next day, and the stomach, first part of the duodenum, and free part of the second division palpated without result. An opening was then made through the transverse meso-colon, and the end of the needle was felt in the third division of the duodenum. Kocher's method of mobilising the second division was used and the needle extracted. Recovery was uneventful. J. D. ROLLESTON.

Appendicitis in a left inguinal hernia in an infant (*'Arch. f. Kinderheilk.,'* 1912, LIX, *p.* 81).—**J. Becker** assumes that in a case in which no situs inversus was present, an abnormally movable cæcum existed which permitted displacement of the appendix into the inguinal canal. He has found no similar case in the literature. F. R. B. ATKINSON.

Acute appendicitis in children (*'Practitioner,'* 1912, LXXXIX, *p.* 527).—**H. E. S. Stiven** analyses the cases of appendicitis met with in ten years in the London Hospital. Of the 4000 cases, 208 were in children from two to seven years of age, 141 were males, and 67 females. The greater number of cases were admitted during April, July, August and September. Twenty-three cases had fæcal concretions. Complications were present in 12 per cent. of the cases, in nine instances with fatal results; 41·8 per cent. ended fatally. The author draws attention to the desirability of early operation in children. F. R. B. ATKINSON.

Appendicitis in the infant (*'Journ. de méd. de Paris,'* 1912, XXXII, *p.* 916).—**Perrin** quotes four cases in infants under five years of age. The lesions were always very grave; in three cases there was diffuse peritonitis or multiple abscesses. The symptoms vary much. Sometimes vomiting is the first sign, then abdominal pain and distension and signs of general peritonitis. Sometimes the disease sets in with preliminary constipation followed by abdominal pains and vomiting. Sometimes an habitually constipated infant has vomiting and headache and loses appetite, and after a fortnight or so has bilious vomiting and abdominal pain. More rarely the onset is abrupt, with pains in the right iliac fossa, vomiting, etc., as in older children. A history of preceding constipation followed by vomiting, and later, abdominal pain, is most characteristic. The great danger is rapid general peritonitis, and broncho-pneumonia is a frequent complication. The diagnosis is difficult; gastro-enteritis, intussusception and pneumococcal peritonitis must be excluded. Immediate operation is imperative, and many apparently moribund infants stand it well. J. PORTER PARKINSON.

Relations of appendicitis and pneumonia (*'Thèses de Paris,'* 1912–13, *No.* 169).—**F. Daussy** comes to the following conclusions: (1) Pneumonia, especially in the child, may be accompanied by abdominal symptoms resembling those of appendicitis. (2) In only a small number of cases are these abdominal symptoms due to an abnormal localisation of pneumonia. (3) Pneumonia and appendicitis may co-exist: (*a*) appendicitis may be only a localisation of pneumococcal infection; (*b*) appendicitis may favour the development of pneumonia. (4) The mechanism by which appendicitis becomes complicated by pneumonia is not fully known. Probably pulmonary vasodilatation plays an important part, as well as intestinal toxi-infection. (5) Clinically two groups of cases may be recognised. In the first pneumonia dominates the scene and the abdominal symptoms disappear rapidly. In the second appendicitis is the most prominent feature, and pneumonia appears later or may even escape recognition. (6) Cases belonging to the first group are usually mild; those belonging to the second group are very grave. (7) In pneumonia with abdominal symptoms the appendix area should be examined, and in appendicitis the lungs should be auscultated. The thesis contains the histories of six cases, four of which are in children from twenty-eight months to twelve years of age (*cf.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1909, VI, *p.* 427). J. D. ROLLESTON.

Pneumococcal and B. coli peritonitis (*'Brazil-Medico,'* 1913, XXVII, *p.* 62).—**Guimarães** describes an attack of peritonitis in a girl, aged 10 years, in whom peritonitis suddenly developed with vomiting, diarrhœa and pain. On the eighth day an abscess burst spontaneously *per vaginam*; over a pint of pus was evacuated. The suppuration continued and it was decided to abstain from surgical intervention. Suppuration ceased altogether in three weeks and the child made a complete though tardy recovery. The bacteriological examination of the pus showed the presence of pneumococci and *B. coli*. M. D. EDER.

Strangulated inguinal hernia in a young infant (*'Osp. d. Bamb. d. Milan.,'* 1912, I, *p.* 119).—**G. Domenichini** records a successful operation by Bassini's method in a male infant, aged 37 days. Recovery was complete, and the child was in good health when seen three years later. From March, 1905, to July, 1911, sixteen children were operated on for strangulated hernia in the Ospedale Maggiore in Milan. All but one, aged 2 days, were from 4 to 12 months old. Three died, viz. the infant, aged 2 days, one of 4 and one of 9 months. J. D. ROLLESTON.

Intestinal obstruction by Meckel's diverticulum (*'Gaz. hebd. des Sci. méd. de Bordeaux,'* 1912, XXXIII, *p.* 433).—**J. Brau-Tapie.**—A child, aged 2 years, had vomiting and violent colic after swallowing a quantity of cherries with their stones. The abdomen swelled, and there was absolute constipation. The next day a purgative was given without effect, the abdominal pain increased, and there was frequent vomiting which soon became fæcal, while the other symptoms of obstruction were well marked. The abdomen was much distended, and the movements of the bowels were very visible. On abdominal section it was found that the small intestine was strangulated by a loop formed by Meckel's diverticulum, the gut below this being contracted and empty. The child died six hours after the operation, though the autopsy showed the complete removal of the obstruction. J. PORTER PARKINSON.

Case of intussusception; resection of bowel; recovery (*'Austral. Med. Journ.,'* 1913, II, *p.* 889).—**E. T. C. Milligan** and **F. Hobill** removed six inches of large and four inches of small bowel in a baby, aged 4 months, for intussusception, with recovery. F. R. B. Atkinson.

Treatment of congenital dislocation of the hip (*'Brit. Med. Journ.,'* 1913, I, *p.* 1044).—**A. S. Blundell Bankart** favours the "bloodless reduction" method and describes the technique of reduction and the after-treatment. He offers several criticisms of Lorenz's method. The best results in congenital dislocation of the hip are obtained by manipulative reduction in early childhood, and they are incomparably superior to those obtainable by any other method of treatment. J. Allan.

A case of recurring luxation of the patella (*'Arch. de méd. des enf.,'* 1913, XVI, *p.* 363).—**Mme. Nageotte-Wilbouchewitch** describes this case in a girl, aged 15 years, who up to that age had never suffered from this condition. Surgical intervention was being considered to prevent the recurrence, which was continually occurring. F. R. B. Atkinson.

An early case of chondro-dystrophy with radiogram and necropsy (*'Amer. Journ. Dis. Child.,'* 1913, V, *p.* 18).—**L. E. La Fétra** publishes a very full account of a case of chondro-dystrophy which was admitted to hospital on the first day of life and died at ten weeks. Photographs of the child at one week and ten weeks and a radiogram of the entire body at eight days are reproduced. A skiagram of a premature infant at fourteen days is introduced for comparison. A full pathological and histological report of the autopsy is given. Reginald Miller.

Metabolism in a case of osteogenesis imperfecta (*'Med. Record,'* 1912, II, *p.* 317, and *'Am. Journ. Dis. Child.,'* 1913, V, *p.* 131).—**H. Schwartz** and **M. H. Bass** report a case of osteogenesis imperfecta in which they had made a study of the metabolism during six days. They found nitrogen metabolism was normal; fat retention and absorption were normal. Particular interest centred round the calcium metabolism, which showed that there was no abnormal failure of calcium retention. The experiments were made during a time when no fractures were occurring, although the skull bones were still very soft; and the study of the calcium metabolism shows that while there was no lack of calcium retention, there was no excess suggesting reparative absorption. The retention of magnesium and phosphorus were also normal. A case of the same disease was mentioned occurring in one of twins, the other child being normal.
Reginald Miller.

Scapular crepitation (*'Brit. Med. Journ.,'* 1913, I, *p.* 221).—**W. Pearson** showed before the Royal Academy of Medicine in Ireland, a child, aged 7 years, who first came to him about two years ago for creaking in the shoulders, which was first noticed after an attack of measles. Symmetrical crepitations were to be found on moving the scapula. X rays showed nothing to account for this. Massage and fibrolysin injections were tried, but there was no apparent change in the condition. The crackling was quite audible. There might be cartilaginous formation or exostoses which might be so small as not to be shown by the X rays. There was nothing in the muscles to account for the peculiarity, and there was certainly nothing in the joint.
J. Allan.

The "key sign" in commencing hip-joint disease (*'Gaz. hebd. des Sci. méd. de Bordeaux,'* 1912; xxxiii, *p.* 609).—**H. L. Rocher** comments on the uncertainty of the signs of commencing hip-joint disease in young children. The "key sign" consists in placing the patient on his back, extending the lower limb and seizing it by the foot with the right hand, and in turning the whole limb very gently like a key either outwards or inwards. If the synovial membrane be diseased, or if there be a bony lesion confined to the upper extremity of the femur, there will be a reflex contraction of the muscles of the pelvis and of the thigh, and a slight sensation of pain. The sound side should always be tested first. CHRISTOPHER ROLLESTON.

Hydrocephalus in a female child one year and ten months old; operation; recovery (*'Austral. Med. Journ.,'* 1912, i, *p.* 825).—**R. B. Duncan.**—The first operation consisted in draining the ventricles, but without result. The right carotid was tied a month afterwards and the left fourteen days later. Soon after the latter operation was performed the child began to crawl about, and after two months her condition was normal for a child of her age. F. R. B. ATKINSON.

The results of dorsal root section in the treatment of the spastic state of cerebral diplegia (*'New York Med. Journ.,'* 1912, i, *p.* 729).—**L. P. Clark** and **A. S. Taylor** find that forty-one cases have been operated upon by dorsal root section for Little's disease, five of which were personal. They consider that the operation should be largely limited to this disease. The results of the operation are as follows: (1) Relief of spastic contractures; (2) normal defence flexion reflex; (3) diminution of the increased tendon reflexes; (4) improved spontaneous mobility.
F. R. B. ATKINSON.

Villous tumour of bladder (*'Osp. d. Bamb. d. Milan.,'* 1912, i, *p.* 115).—**A. Carozzi** records a case in a girl, aged 4 years, who died twenty-five days after exploratory cystotomy without removal of the tumour. Before this operation polypoid masses had presented at the urinary meatus and had been excised, with temporary relief of the pain and difficulty in micturition. Microscopical examination showed the tumour to be a fibro-myxoma.
J. D. ROLLESTON.

Ninety-six calculi in a pouch of the urethra (*'Indian Med. Gaz.,'* 1912, xlvii, *p.* 393).—**G. P. Franklin.**—A boy, aged 8 years, was brought to hospital for inability to pass urine through the proper channel, and a hard swelling the size of a small orange extending along the under surface of the penis from the scrotum to within half an inch of the glans. A fistula opened at the lower end of the tumour through which all the urine passed. No stone could be felt in the bladder, but a director inserted through the fistula passed straight into the swelling, in which numerous stones were felt. On splitting up the fistula a saccular dilatation of the penile urethra was found, from which ninety-six stones were removed, varying in size from a marble to a fig-seed. The fistula was closed, but the swelling reappeared whenever pressure was exercised during urination. J. D. ROLLESTON.

Large urethral caruncle in a girl (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 1281).—**C. G. Buford** reports the case of a girl, aged 9 years, who, after a fall, had bleeding from the vulva. At the external meatus there was

a tumour extending about a quarter of an inch upward into the urethra. Its base was spread over almost the entire circumference of the urethral canal and meatus, and was thrown into a vertical fold as it protruded. The surface was not eroded, but there was a purulent discharge from the urethra, in which Gram-negative intracellular diplococci were subsequently found. The tumour was excised, and on microscopical examination proved to be a chronic granuloma. Eighteen months later there was no recurrence, but gonococci were still present. T. R. WHIPHAM.

Gonococcal urethritis in a boy, aged 17 months (*'Brit. Med. Journ.,'* 1913, I, *p.* 878).—**A. Smith** and **C. S. McKee** report this case, which came under observation because of inability of the infant to urinate. A hot bath relieved the condition, but later circumcision had to be done. Four days later urethral discharge was noted and the bacteriological examination demonstrated the presence of gonococci. The source of infection was doubtful. J. ALLAN.

Acute rheumatic orchitis in a child (*'Journ. Amer. Med. Assoc.,'* 1913, LX, *p.* 1608).—**M. H. Bass** reports the case of a child of Russian parentage, aged 2½ years, whose illness began with an acute torticollis. The cervical glands became slightly enlarged and patches of erythema nodosum appeared over the skin of the left leg. There was also acute pharyngitis and the urine contained a very faint trace of albumin. When first seen the temperature was 102·5° F. Four days later the scrotum began to swell and the left testicle was found to be enlarged and exquisitely tender. The torticollis by this time had disappeared, but fresh patches of erythema nodosum were present on both thighs. As the scrotum became less œdematous the body of the testis was found to be chiefly involved and the epididymis to a less degree. In the course of a fortnight the testis gradually returned to its normal size without any atrophy resulting. The child was treated with 2 gr. of aspirin four times a day. He had had mumps previously, and at no time during this illness were the parotid glands enlarged. T. R. WHIPHAM.

Six cases of hydrocele in infants treated by operation (*'Brit. Med. Journ.,'* 1913, I, *p.* 384).—**J. H. Nicoll** describes the operation, which can be carried out in the out-patient department of a hospital. No local preparation was done until the child was anæsthetised. A skin incision (1 to 1½ inches) is made just above the groin over the inguinal canal, and the spermatic cord exposed just below the ring. The testicle and hydrocele are pushed up into the wound, and the upper end of the hydrocele sac exposed by a few snips of the scissors. The exposed sac is then emptied by trocar and cannula. The collapsed sac with the testicle is then pulled out of the wound, and the sac dealt with—either by tearing out its internal serous lining, by complete excision, or by bisection and suture of its halves back to back behind the testicle. Replacement of the testicle in the scrotum and suture of the wound in the groin complete the operation. The dressing is a pad of sterile gauze fitted by a strip of adhesive plaster. The children are then taken home by their mothers and brought back in a week for removal of dressings and sutures. An excellent plate in illustration of the method is included. J. ALLAN.

A case of hydrocele cured by auto-serotherapy (*'La Med. de los Niños,'* 1913, XIII, *p.* 359).—**Sisternes** reports the cure of a hydrocele by

the subcutaneous injection of 2 c.c. of the serous fluid previously withdrawn from the sac. Two hours after the injection the whole of the fluid had become absorbed, there was some œdema of the neighbouring parts and an increase in the quantity of urine. M. D. Eder.

Sarcoma of the ovary in the infant (*'Arch. de méd. des Enf.,'* 1913, xvi, *p.* 207).—**A. Lesage** and **Girault** found this condition on post-mortem examination in a child, aged 12 months. There were no metastases.
F. R. B. Atkinson.

Hydatid cysts in children (*'Gaz. hebd. des sci. méd. de Bordeaux,'* 1913, xxxiv, *p.* 207).—**L. Verdelet** records three cases: (1) Girl, aged 8 years. Suppurating hydatid cyst in perirenal tissue; operation; recovery. (2) Boy, aged 10 years. Hydatid cyst of neck; operation; recovery. (3) Boy, aged 11 years. Multiple cysts of abdomen; death from shock thirty-six hours after operation. J. D. Rolleston.

Disinfection of the skin with tincture of iodine in children (*'Arch. de méd. des enf.,'* 1913, xvi, *p.* 520).—**R. Monod,** unlike Codet-Boisse (*vide* British Journal of Children's Diseases, 1912, ix, *p.* 520), has never met with any bad results following the use of tincture of iodine as a skin disinfectant in children, and quotes statistics from Broca's service, where this method is exclusively used, to prove its innocuity. J. D. Rolleston.

Reviews.

The Surgical Diseases of Children. By William Francis Campbell, A.B., M.D., and Le Grand Kerr, M.D. New York and London: D. Appleton & Co., 1912. Price 25s. net.

This book is a comprehensive work on the surgery of infancy and childhood. The authors have freely quoted the work of other authors, and have tried to cover the whole field of the surgical diseases of children. The first sections deal with the examination and diagnosis of diseases in children. There are four chapters on anæsthesia. These chapters are sound in their teaching, and we agree with much that the authors say in regard to anæsthesia in childhood. We think, however, that the importance of the "*status lymphaticus*" as a cause of danger is much exaggerated. We also cannot agree with the authors that the danger of anæsthesia is toxic rather than asphyxial, for we should attribute most of the dangers of anæsthesia primarily to the asphyxial factor. The preparation for operation is thoroughly discussed. The chapter on osteomyelitis is particularly good, and there is a good chapter on injuries in children and their treatment.

The latter part of the book is devoted to surgery in the various regions of the body. The description of the different operative procedures is, in some instances, not very clear. This is noticeably the case in the description of the treatment of club-foot. We are surprised to find that no description is given of the method of treating club-foot by wrenching, since this is now generally recognised as the treatment *par excellence* for this condition. It is stated on p. 657 that should simple tenotomy fail to relieve the

deformity Phelps' operation should be performed. We cannot agree with this, for we think that practically all deformities are better dealt with by tenotomy and wrenching than by the removal of bone. The description of the treatment of hip disease leaves much to be desired. For instance, it is advised that Taylor's single hip splint should be used. This, in our opinion, is very inferior to the double Thomas' splint used in this country, and will almost certainly result in the hip becoming fixed in a bad adducted position. No mention is made of the importance of an abducted position in the treatment of hip disease where fixation of the joint is expected. In the description of prolapse of the rectum in children, treatment by the injection of paraffin wax into the tissues is advised. This we consider bad, and likely to cause serious trouble in later life. We cannot agree with the authors that the operation for inguinal hernia is not safe before the age of two years. In the hands of a good operator this operation should be perfectly safe at any age over six months, and nothing is to be gained by waiting longer.

This book is excellently got up, and is well and clearly illustrated. We think it is one which may be read with advantage by all those specially interested in the surgery of children.

P. L. M.

Sclero-corneal Trephining in the Operative Treatment of Glaucoma. By Robert Henry Elliot, M.D., B.S.Lond., Sc.D.Edin., F.R.C.S.Eng., etc., Lieut.-Col., I.M.S., Superintendent of the Government Ophthalmic Hospital, Madras, Professor of Ophthalmology in the Medical College, Madras, etc. London: George Pulman & Sons. Price 7s. 6d. net.

The study of Glaucoma is one of the most interesting in ophthalmic work. For long iridectomy held the field in the operative treatment of this disease, but of late years numerous new operative measures have been devised, including the sclero-corneal trephining, so ably advocated by Elliot. In this volume the author gives a full account of the operation associated with his name.

After a brief introductory chapter, in which he traces the development of operative measures in glaucoma, the author includes two papers from 'The Ophthalmoscope,' in which the more modern operations are discussed. He then proceeds to deal with his operation, and he discusses in turn indications, preparations for, the technique, complications and after-management of sclero-corneal trephining. The account is most lucid, and there should be little difficulty in following the author's various arguments.

How far this operation will be of service in children we do not yet know. We have only seen it done in one child—in a case of secondary glaucoma after interstitial keratitis in which the sclerotic had begun to stretch. The result was fairly satisfactory. We can without hesitation recommend this volume to all interested in ophthalmic problems, more especially glaucoma.

J. A.

London Public Health Administration. By W. McC. Wanklyn, B.A., M.R.C.S., L.R.C.P., D.P.H. London: Longmans, Green & Co., 1913. Pp. 59. Price 2s. 6d. net.

Dr. Wanklyn has written an admirable summary of that complicated network of officialdom, the Public Health Administration of the County of London, which comprises no less than seven different bodies, many of them

concerned with the same work, thus necessitating considerable overlapping and waste of energy. Readers of this JOURNAL may be interested to know that lectures on mothercraft are given to parents by the County Council, but that schools for mothers and infant consultations are provided by the borough authorities. Infant life protection is administered by the county, but the homes seem to be visited by the sanitary and women health visitors of the local medical officers of health department. The cleansing of verminous children, their homes and their parents also seems to require co-ordination. Again, as regards the milk supply the borough authorities test for added water and deficient fat, and may stop milk supply to prevent infection. On the other hand, the London County Council seem to be the only body who has the power to take samples for bacteriological examination for the detection of tuberculosis.

The history of the evolution of this complicated machinery is so admirably and succinctly given that it is to be hoped that the Public Health Department of one of our medical schools will shortly include Dr. Wanklyn on its staff of lecturers. C. R.

INSOMNIA: ITS CAUSES AND TREATMENT. By Sir JAMES SAWYER. Second edition. Birmingham: Cornish Bros., 1912. Price 2s. 6d. net.

THIS little book consists of three chapters, the first two of which appeared as clinical lectures in the 'British Medical Journal' in 1903 and have since been revised, re-written and enlarged, while the third is a reproduction of the author's article on insomnia in Hutchison and Collier's 'Index of Treatment.'

In the first chapter, which is devoted to the causation of the disease, symptomatic is distinguished from intrinsic insomnia and the varieties and symptoms of each kind are discussed. The second chapter, which deals with treatment, is full of valuable practical suggestions, and contains on page 87 some apposite remarks on the cause and cure of sleeplessness in children. The third chapter contains an admirable summary of the physiology, pathology, ætiology, varieties and treatment of insomnia.

The work is the outcome of a long and successful experience and as such will be read with interest by every practitioner, while to the layman into whose hands it may fall we would recommend the shrewd advice given on page 81: "Patients suffering from insomnia recover normal sleep more quickly under frequent interviews with their medical adviser but when such meetings are 'few and far between.'" J. D. R.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY: TWENTY-FOURTH SESSION. Edited by LINNAEUS EDFORD LA FÉTRA, M.D. Vol. xxiv. Chicago: American Medical Association Press, 1912.

THIS volume contains twenty-four papers, most of which have appeared elsewhere and have already received or will shortly receive notice in this JOURNAL. Among the more interesting may be mentioned papers on "Typhoid Fever in Infancy," by J. P. Crozer Griffiths; "Serum Treatment of Pneumonia," by R. G. Freeman; "The Wassermann Reaction in Infants and Children," by Frank Spooner Churchill; "The Employment of Salvarsan in Infants and Young Children," by L. E. La Fétra; and "Acute Yellow Atrophy in a Child Three years of Age," by Francis Heber. Instuctive articles on various aspects of infant feeding are contributed by H. L. Coit, D. M. Cowie, P. J. Eason, J. L. Morse and T. S. Southworth.

An index of authors and subjects for vols. xv to xxiv inclusive is appended. J. D. R.

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Original Articles.

THE DIPHTHERIA BACILLUS AND SCARLATINAL INFECTION.*

By T. SHADICK HIGGINS, M.D., B.Sc., D.P.H.,

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THE object of this paper is to record certain facts as to the incidence of the *Bacillus diphtheriæ* in cases of scarlet fever in Birmingham; and, further, to record observations which appear to show a connection between the presence of this germ and the persistence of scarlatinal infectiousness, with particular reference to the question of return cases. It deals with the association of this bacillus, not with clinical diphtheria, but with scarlet fever.

Attention was directed along these lines by my finding a number of cases of rhinitis associated with the presence of the Loeffler bacillus in the nose amongst those convalescent cases of scarlet fever whose arrival home from the fever hospitals had been followed by the occurrence of return cases of scarlet fever in their households. This raised the question whether the Loeffler infection had any connection with the occurrence of the return cases of scarlet fever, and it was arranged by Dr. Robertson that I should take swabs

* A paper read before the Section of Epidemiology and State Medicine of the Royal Society of Medicine on April the 25th, 1913.

from the nose and throat respectively of all cases who showed scarlatinal infectivity subsequently to their discharge from hospital. It was also arranged that all cases of scarlet fever should be similarly swabbed in the city hospitals at the time of their admission to and discharge from hospital.

In February, 1912, I read a paper before the Midland Branch of the Society of Medical Officers of Health (8), in which I gave the results of this investigation up to November, 1911. Since then more work has been done upon the subject, and in venturing to bring the matter before this distinguished Society I have not only recorded this further work, but for the sake of completeness have not hesitated to repeat much of what was then said.

With the exception of the examination of the swabs taken from patients during their stay in hospital, the bacteriological work has been done by Dr. C. J. Lewis in Professor Leith's laboratory at the University of Birmingham. In addition to the routine examination of swabs Dr. Lewis has isolated the diphtheria-like bacilli in more than sixty cultures.

Definitions.

In order to avoid misunderstanding from the use of certain arbitrary terms, I will here give the definitions of some of the expressions which I am using in this paper.

The term "primary case" is to be understood to mean a case of scarlet fever whose return from a fever hospital has been followed by the occurrence in the same house of a further case or cases of that disease beginning within eight weeks of the date of return.

The term "return case" is used for such secondary cases without the assumption being made that they all, without exception, have been necessarily caused by contact with the corresponding primary cases.

Except where it is specially mentioned to the contrary, no return case has been considered or enumerated where the diagnosis of either the primary or secondary case was revised in hospital to "not scarlet fever."

No swabs have been taken from patients who have caused further cases in their households ("recovery cases") after their release from isolation practised in their own homes.

Scheme of Work.

The work reported in this paper has been devised upon the following plan :

(1) Among those cases of scarlet fever which caused return cases on their arrival home from hospital, the percentage which were infected with true *Bacillus diphtheriæ* was determined. The manner in which this was arrived at is given in detail below.

(2) For comparison with this result the incidence of the bacillus (expressed as a corresponding percentage) was also determined amongst cases of scarlet fever whose arrival home from hospital was *not* followed by the occurrence of return cases. In addition the incidence of the bacillus in scarlet fever cases during their stay in hospital was investigated.

(3) Lastly, the proportion of normal school-children showing the true *Bacillus diphtheriæ* was determined.

For the sake of clearness I have divided the paper into three sections corresponding to the above three headings, and a fourth section, in which I have made some comments upon the results.

Section I.

The bacteriological investigation of patients who had caused return cases was carried on from December the 19th, 1910, to November the 8th, 1912, a period of nearly two years (during which time 5573 cases of scarlet fever were admitted to the city hospitals).* The number of return cases which were notified in that time was 485. These occurred in 365 houses, to which 419 primary cases had returned. The difference in these figures is, of course, due to the fact that more than one primary case returned to some houses, and more than one return case occurred in others. A negligible number of these cases ensued upon the return of primary cases from fever hospitals outside the city, the vast majority being connected with cases from the city hospitals.

The primary cases were visited as soon as possible after the occurrence of the return cases, usually one to three days after notification of the return cases, and swabs were taken from the nose and throat respectively. The specimens from the nose were taken by passing the swab as far into each nasal cavity as the rigid rod would pass, and from the throat by rubbing it well on and about the tonsils. When there was otorrhœa a swab was also taken of this discharge.

* On November the 9th, 1911, the population of the city was increased by extension from 526,030 to 842,337, and return cases have been considered which occurred within the old city before that date or within the extended city on or after it.

The swabs were examined by Dr. Lewis, who inoculated tubes of Loeffler's blood-serum in the usual way, and examined the resulting eighteen-hour cultures stained by Neisser's method, and by simple stain (carbol thionin). He reported as "positive" those cultures which presented diphtheroid bacilli showing polar staining with the Neisser stain like Loeffler's bacillus: that is to say, those cultures in which it was not possible to return a negative report as to the presence of *Bacillus diphtheriæ*. In this paper the terms "positive" and "negative" are used in this sense entirely.

I myself took the swabs from all the primary cases (102) before November the 8th, 1911. After that date I also dealt with the primary cases (88) in the north-west division of the new city, those in the other three divisions (229) being examined and swabbed by Dr. John Dale, Dr. T. W. Beazeley, and Dr. Reginald Green. The results of the swabbing of those cases were as follow:—

	Primary cases.
Positive swabs from nose only	112
,, ,, ,, ear only	5
,, ,, ,, nose and ear . . .	4
,, ,, ,, throat only	4
,, ,, ,, nose and throat . . .	19
,, ,, ,, nose, throat and ear . .	1
Total positive . . .	145
Negative swabs only	234
Swabs not taken	40
Total	419

Thus 145 of the 379 primary cases swabbed were positive, or 38 per cent. (Of the 190 cases which I myself swabbed 42 per cent. were positive; and amongst the 229 swabbed by my colleagues 35 per cent.)

It should be mentioned that only in a few instances were the cases which were reported negative subjected to a second swabbing. Had this been done the number of positives would undoubtedly have been higher. Moreover, in about eighty cases amongst those swabbed the throat swabbing was omitted for various reasons.

As I mentioned above, more than one primary case had recently returned to some of the houses furnishing return cases. As in all probability only one primary case in each of these houses had actually infected the return case, it is more useful to give the results in terms of houses where return cases contracted scarlet

fever than in terms of individual primary cases. In houses where there was more than one primary case the house is taken as positive if *any* of the primary cases gave a positive swab, and as negative if *none* of them did so. On this basis the results become:

Number of houses with positive results . . .	136
„ „ „ negative results . .	189
„ „ where swabs were not taken .	40
Total	365

—that is, 136 positive out of 325 houses, or 42 per cent.

Besides the cases which were found to be positive when swabbed in this way after causing return cases, there were a number of other primary cases which, though giving a negative result on that occasion, had been found to be positive some time during their stay in hospital: that is to say, the percentage given above (42) is an under-statement of the number of return case houses where a primary case has given positive results at *any* time during or after its stay in hospital. In my former paper I gave results in which every patient who had given a positive swab in hospital or subsequently was treated as positive. On this basis, up to November the 8th, 1911, out of eighty-five houses where return cases had occurred, positive primary cases had returned to fifty-eight—*i. e.* 68 per cent.

It must be admitted that the microscopic identification of Neisser-staining bacilli indistinguishable from Loeffler's bacillus is not sufficient evidence in series such as these upon which to give a percentage representing the proportion of cultures containing the *Bacillus diphtheriæ*. Isolation and testing of the Neisser-positive bacillus is a necessary corollary to its discovery in mixed culture, and until this has been done it is not possible definitely to distinguish the *Bacillus diphtheriæ* from diphtheroid bacilli, which closely resemble it in being Neisser-positive and in other respects. This has become very clear from Dr. Lewis's work.

Before I published my results up to date in February, 1911, Dr. Lewis had isolated the bacillus which had led to the "positive" report in three of my positive cases, and in each one had obtained a true Loeffler culture which was virulent, killing a guinea-pig within two days of subcutaneous injection, and produced no effect in a similar guinea-pig which had previously been protected by an injection of diphtheria antitoxin. From this I concluded that it was safe to assume that most of the positive cultures contained the true *Bacillus diphtheriæ*.

As doubt was thrown upon the validity of this assumption, Dr. Lewis kindly agreed to isolate a consecutive series of these positive cultures. Dr. Dale and I were then dealing with return cases in the northern half of the enlarged city, and it was arranged that all the positive cultures which we obtained should be tested in this way. Reckoning by the date of notification of the return cases, the series began on April the 6th, 1912, and ended, with an interruption of two months in the summer vacation, on October the 17th. For nearly four months almost all the positive cases from half the city were specially investigated in this way.

The number of positive swabs in this series was thirty. (It must be mentioned that of the thirty, three were from primary cases who were afterwards found not to have had scarlet fever, though the return cases had true scarlatina. These have not been cut out of the series.) Of these thirty, Dr. Lewis was able to isolate the Neisser-positive bacillus in twenty-two instances. All these twenty-two diphtheroid organisms he tested in pure culture in sugars and by inoculation into guinea-pigs, and divided them into two groups—viz. those which were the true *Bacillus diphtheriæ* of Loeffler and those which were other diphtheroid bacilli. The Loeffler group were identified by their microscopic appearance, their appearance in both cultures, and by their producing acid in glucose and dextrine mediums, but not in saccharose. Thirteen of the twenty-two gave these reactions and were inoculated subcutaneously into guinea-pigs (1 c.c. of forty-eight hours' broth). Eleven of the thirteen were fully virulent, killing the animal within a few days with post-mortem signs typical of death from *Bacillus diphtheriæ*. The bacillus was recovered in pure culture from the local lesion in all these cases. In the other two of the thirteen the guinea-pigs developed a swelling at the site of inoculation and showed signs of ill-health, but did not die. It was concluded that these two were also *Bacillus diphtheriæ*, deficient in pathogenicity. All the thirteen cultures were also inoculated into guinea-pigs which had been protected by the injection of diphtheria antitoxin; in every case they were harmless to such protected animals. The other nine cultures of the twenty-two did not agree with Loeffler's bacillus in culture reactions (and some of them in morphology), and were non-pathogenic to guinea-pigs. They all gave Neisser-positive individuals which accounted for the appearance in the original mixed cultures that gave rise to the "positive" diagnosis.

Dr. Lewis concluded from these experiments that of the twenty-two "positive" cultures in which the Neisser-positive diphtheroid

was isolated, at least thirteen contained the true *Bacillus diphtheriæ* —*i. e.* 60 per cent.

The patients who gave the true *Bacillus diphtheriæ* exhibited the germ at the time of swabbing as follows: In nose only, six cases; in nose and ear, one case; in nose and throat, four cases; in nose, throat and ear, one case; in throat only, one case.

There appears to be no reason why the positive cultures obtained from primary cases during these particular four months should differ as to the proportion containing the *Bacillus diphtheriæ* from those given by such primary cases throughout the rest of the two years over which this investigation extended, especially as all the cultures were examined by the same observer. On this assumption we arrive at the result that about 60 per cent. of 42 per cent. (about 25 per cent.) of all houses where return cases occurred had received home from hospital a primary case from whom the *Bacillus diphtheriæ* could be recovered.

This figure can to some extent be checked in the following manner: During the four months in which the "positive" bacilli from the northern half of the city were being isolated and tested we swabbed the primary cases at forty-six houses, and obtained the true *Bacillus diphtheriæ* from twelve of them. This gives a proportion of 26 per cent. of all return case houses, as compared with 25 per cent. obtained by the other method.

Section II.

The striking fact that a quarter of this class of infectious scarlet fever convalescents can be shown to be harbouring the true Loeffler bacillus in their nose or throat subsequently to their discharge from the fever hospital is sufficient demonstration that this germ must be fairly common amongst the scarlet fever patients in the Birmingham fever hospitals. In my former paper I quoted the following extracts from the literature bearing upon the prevalence of this germ in scarlet fever.

In 1898 Todd investigated a form of external rhinitis occurring in scarlatinal convalescents which was characterised by redness at the nostrils, passing on to the formation of raw granular surfaces with crust-formation and bleeding, and often associated with spottiness of the face and pustules elsewhere, a condition familiar to all who have had to deal with scarlet fever wards. He found fifty-one (or 14 per cent.) of such cases in 365 cases of scarlet fever at the London Fever Hospital, and on taking nasal swabs obtained the bacillus in every one of the fifty-one cases. Several of these were

isolated and proved to be virulent Loeffler bacilli, which could be antagonised by diphtheria antitoxin. He obtained the same organism from the secondary pustules.

Williams (1901) did similar work, and obtained this germ from cases of rhinorrhœa and otorrhœa in scarlet fever. In a series of scarlet fever cases he examined all those which showed any rhinorrhœa, however slight, and in fifty-seven (or 40 per cent.) of 141 cases of rhinorrhœa found the Loeffler bacillus in the discharge. In sixty-eight cases of scarlatinal otorrhœa also he found five (or 8 per cent.) with this bacillus. Only a minority of the cultures tested on guinea-pigs were typically virulent.

It appears, then, well established that rhinitis and otitis in scarlet fever are often characterised by the presence of the *Bacillus diphtheriæ* in the discharge.

In regard to the frequency of its presence in uncomplicated cases of scarlet fever, or in cases in general of this disease, the most striking feature of the results recorded by various observers is the great lack of uniformity that they show.

Garratt and Washbourn (1899) (4) found that amongst 666 cases of scarlet fever admitted to the London Fever Hospital, only eight (or 1·2 per cent.) showed bacilli in the *throat* morphologically resembling the *Bacillus diphtheriæ.* Their virulence was not tested.

W. T. G. Pugh (1902) (10), at the North-Eastern Hospital, London, examined the noses and throats of scarlet fever patients on admission. Out of 415 cases uncomplicated by clinical diphtheria, seventeen (or 4 per cent.) showed Loeffler bacilli in the throat, and five of these tested on guinea-pigs were all non-virulent. Out of 414 cases uncomplicated by faucial diphtheria or membranous rhinitis, thirty-three (or 8 per cent.) showed the bacilli in the nose, and six of these tested on guinea-pigs were all non-virulent. In wards where post-scarlatinal diphtheria existed he several times found virulent diphtheria bacilli, and also in fibrinous rhinitis occurring during stay in hospital.

Escherich and Schick (1912) (2) state that Sellner found diphtheria bacilli in 2 per cent. of his (103) scarlet fever cases, Soerensen in 16 per cent. of 1500 cases (of which thirty-two had clinical diphtheria), and Ranke in 53 per cent. of his cases.

The lack of uniformity in the above results makes it appear that the prevalence of this germ in scarlet fever hospitals varies from place to place, and therefore the prevalence of the germ in the Birmingham primary cases should be compared only with the results obtained in the Birmingham hospitals.

During 1911 the scarlet fever patients in the two chief Birmingham fever hospitals, Little Bromwich Hospital and Lodge Road Hospital, were bacteriologically examined on admission and on discharge under the supervision of the Medical Superintendents, Dr. T. W. Beazeley and Dr. H. M. Cargin. At both hospitals the noses and throats of the patients were separately swabbed. The results of this work will be found in my former paper (8). At Little Bromwich 32·5 per cent. of 1063 patients were reported positive on admission (24 per cent. in the nose and 14 per cent. in the throat), and 20·7 per cent. (nose only) at the time of discharge. At Lodge Road 23 per cent. of patients were reported positive (nose or throat) on admission, and 49·6 per cent. of all patients at some time or other during their stay in hospital. Unfortunately, these figures were compiled from the results of a number of medical officers working more or less independently, and were not controlled by isolation of the suspicious organisms.

In the above-mentioned paper I worked out from the hospital figures certain results which tended to show some connection between the prevalence of the positive germs and the occurrence of the return cases, but at the same time expressed the view that the evidence was not conclusive. But in view of other evidence which I give below, I feel that more definite results might perhaps be obtained if the whole of the bacteriological examinations inside the hospitals and subsequently in the patients' homes were carried out by a single observer, and the results checked by the necessary isolation and testing of the bacilli.

I have since attacked the subject in a different way. Knowing what proportion of patients causing return cases have true *Bacillus diphtheriæ* which can be demonstrated by swabbing, I have tried to get corresponding figures for patients who have not caused return cases, my object being to compare the incidence of the true Loeffler bacillus after discharge from hospital in those who remain capable of spreading scarlet fever with the incidence in those who have not shown themselves to be infectious. For this purpose I visited about a hundred cases ten days after their return from the fever hospital, and took swabs from the nose and throat respectively of each. Dr. Lewis examined the resulting cultures, and in all cases where he found bacilli showing polar staining with the Neisser stain and resembling the *Bacillus diphtheriæ* he isolated and investigated these bacilli. This work lasted from July the 22nd to July the 26th, 1912, and after the summer vacation from October the 15th to December the 19th, 1912. On most of the weekdays

during this time I swabbed a proportion of the cases who had been out of hospital ten days and who had not caused any return case. Altogether the series comprised 107 cases, but five of these subsequently caused return cases and were, of course, excluded. The cases were quite unselected, except that in the latter half of the series no cases were swabbed unless there was at least one child in the house aged under fifteen who had not had scarlet fever. The ages of the 102 cases which comprised the series were as follows :

0–1 year .	0 cases	8– 9 years .	7 cases
1–2 years .	2 „	9–10 „ .	4 „
2–3 „ .	2 „	10–11 „ .	3 „
3–4 „ .	8 „	11–12 „ .	9 „
4–5 „ .	13 „	12–13 „ .	2 „
5–6 „ .	16 „	13–14 „ .	3 „
6–7 „ .	12 „	14–15 „ .	5 „
7–8 „ .	8 „	over 15 „ .	8 „

In the 102 Dr. Lewis found twenty with Neisser-positive polar staining bacilli. He plated out all these and succeeded in isolating the Neisser-positive bacillus in all except two cases. In the eighteen cases in which isolation was successful the bacillus in seven instances proved to be the true *Bacillus diphtheriæ*, as determined by morphology and culture reaction (see above). All seven proved virulent to unprotected guinea-pigs and produced fatal results, though in two cases death did not take place until the tenth and eleventh day respectively, with necrosis at the site of injection. The bacilli were recovered in pure culture from the local lesions. All the seven were harmless to guinea-pigs previously protected by the injection of diphtheria antitoxin. The other eleven isolated bacilli did not correspond with Loeffler's bacillus in culture reactions, and some also in microscopical appearance. Thus about 7 per cent. of the patients whose return from hospital gave rise to no return cases showed the true *Bacillus diphtheriæ*, contrasting with 25 per cent. of those who did show themselves in this way to be able to infect others with scarlet fever. Even then it is possible that some of the seven were really infectious, but for various reasons, such as immunity to scarlet fever, on the part of other members of their households, were unable to cause return cases. Indeed, some of them had nasal conditions which one knows to be frequently associated with the production of return cases.

Section III.

When I was in possession of these facts as to the distribution of this germ in scarlet fever, it appeared desirable to compare them

with the prevalence of the same germ in the normal population, especially amongst children, who, of course, furnish the bulk of our scarlet fever cases.

The most comprehensive piece of work on these lines appears to be that recorded in the "Report on Diphtheria Bacilli in Well Persons" (1902) (9) of a Committee of the Massachusetts Association of Boards of Health. In this investigation over 4000 persons were examined, and the results were divided into two groups. In the case of 3096 persons from communities practically free from diphtheria, 1·4 per cent. showed typical diphtheria bacilli, of which 0·9 per cent. had them in the nose, and 0·6 per cent. in the throat. Fifty-five of these positive cultures were tested and five proved to be virulent. In the case of 1154 persons, almost entirely children, in institutions where diphtheria had existed from one to eighteen months previously, the figures were higher, viz. 2·9 per cent., of which 2·1 per cent. showed the bacilli in the nose, and 1·5 per cent. in the throat. Thirty-one of these positive cultures were tested and six found to be virulent. The difference between these two sets of cases is attributed by the Committee to the difference in the prevalence of diphtheria in the communities under consideration. This conclusion is obviously of great importance when we are considering the distribution of this bacillus.

That diphtheria bacilli are frequently to be found in healthy persons who have been exposed to the infection of diphtheria is well known. Graham-Smith (1908) (5) points out that the frequency of this occurrence depends largely upon the intimacy of contact, a larger proportion of carriers, for instance, being found in the members of the families of diphtheria patients than in the scholars of diphtheria-infected schools. Seligmann (1911) (11) has noted that in diphtheria-infected institutions the departments with fewer cases tend to contain fewer "carriers" than the departments with greater numbers of cases (he dealt mainly with the throats only). Steenmeyer (12) failed to find diphtheria bacilli in the throats of forty-four children in a Dutch village which had been free from diphtheria for ten years, but in the throats of forty-one children of Utrecht, where diphtheria was endemic, he found diphtheria bacilli in several. Graham-Smith (6) concludes that virulent diphtheria bacilli are very rarely found in the throats and noses of healthy persons who have not been in immediate or remote contact with cases of diphtheria, but that in 2 to 3 per cent. of persons unexposed to infection bacilli are to be found differing from ordinary diphtheria bacilli only in their non-virulence to guinea-pigs.

The fact that the degree of prevalence of diphtheria in a community is reflected in the prevalence of the bacillus in healthy persons must therefore be held to explain the great disparity which appears amongst various published results (3).

For this reason I did not feel justified in making any assumption as to the prevalence of the *Bacillus diphtheriæ* in the Birmingham population. I therefore resolved to take swabs from a number of normal school-children. For this purpose I selected two schools, and, beginning in January, 1913, took swabs from the nose and throat respectively from certain of the scholars (by kind permission of Dr. G. A. Auden, School Medical Officer, Birmingham). One school (D) had been entirely free from diphtheria for at least eighteen months, and during that time had produced only a few cases of scarlet fever. The other school (N) had produced only three cases of diphtheria during the past two years, but had been afflicted with a considerable outbreak of scarlet fever during the autumn and winter, cases continuing to occur in abundance during the time that I was taking swabs. I selected only children who gave a history of never having had scarlet fever or diphtheria. In all, ninety-nine children were swabbed, fifty of one sex and forty-nine of the other. Half were from school D and half from school N. The ages of the children swabbed were as follows :

5–6 years .	16 children	10–11 years .	3 children
6–7 „ .	25 „	11–12 „ .	2 „
7–8 „ .	22 „	12–13 „ .	8 „
8–9 „ .	11 „	13–14 „ .	10 „
9–10 „ .	1 child	14–15 „ .	1 child

Amongst the cultures from the ninety-nine children Dr. Lewis found " positive " bacilli appearing to warrant further investigation in eighteen, and all of these he isolated and tested. Seven of the germs proved to be Loeffler's bacillus, as judged from microscopical appearance and culture and sugar reactions. Of these seven one was fully virulent to the guinea-pig, but not to the antitoxin-protected animal, and the other six only produced slight local swellings at the site of injection. The other eleven positive bacilli proved not to be the *Bacillus diphtheriæ* by the above tests. Thus amongst these school-children 7 per cent. gave true *Bacillus diphtheriæ* (of which only a minority were fully virulent). It will be noticed that the Loeffler bacilli from these school-children were less virulent than those from the scarlet fever convalescents. In the school D, comparatively free from scarlet fever, only two children (4 per cent.) showed the *Bacillus diphtheriæ*; whereas in the

school N, where scarlet fever was prevalent, five (10 per cent.) did so.

The fact that such a distribution of these germs occurs in schools which are almost free from diphtheria has an important bearing on the question of the administrative action to be taken in regard to such apparently harmless "carriers" when diphtheria cases do occur.

Prevalence of Clinical Diphtheria in Birmingham.

A point of interest in connection with these observations is the fact that neither the post-scarlatinal diphtheria-rate in the Birmingham fever hospitals, nor the diphtheria rate for the city, is high, in face of the fact that there is such a wide distribution of the *Bacillus diphtheriæ* in the scarlet-fever wards of the hospitals, and a constant discharge of patients with this germ from the hospitals back into the general population.

In 1910 and 1911 together the post-scarlatinal diphtheria-rate in Lodge Road Hospital was 0·7 per cent. reckoned on 545 admissions, and in Little Bromwich Hospital 0·2 per cent. on 3703 admissions. The returns for the two hospitals, however, give a higher rate for cases admitted with simultaneous scarlet fever and clinical diphtheria during those years—namely, 1·3 per cent. of scarlatinal admissions for 1910 and 3·4 per cent. for 1911. The above figures are from the Annual Reports of the Medical Superintendents (1).

The diphtheria death-rate for Birmingham (old city) for 1910, 1911, and 1912 was 0·11, 0·13 and 0·12 per 1000 respectively, which was nearly the same as that for England and Wales generally, and less than that for many other large towns.

Section IV: Conclusions.

The fact that typical *Bacillus diphtheriæ* was isolated from the scarlatinally infectious "primary" cases in 25 per cent. of instances,* but only in 7 per cent. of those cases of scarlet fever whose return from hospital had not produced return cases, and in 7 per cent. also amongst normal school-children, seems to show that the presence of this germ in the nose or throat of cases of scarlet fever is often associated with a prolongation of the period of scarlatinal infectiousness; and that the presence of the germ is indicative of an increased

* This is in terms of houses. The corresponding figure for total "primary cases" is 23 per cent.

probability of such infectiousness. The question then arises how this is brought about.

It is well known that rhinitis (and sometimes otorrhœa) is common among the patients who produce return cases, and most observers hold the reasonable opinion that it is then the actual cause of the return case. We also know from such work as that of Todd (14) and of Williams (15) that the *Bacillus diphtheriæ* is very frequently present in such conditions. These two circumstances together may conceivably be the explanation of the association of scarlatinal infectiousness with the presence of the diphtheria bacillus.

At once we are faced with the question whether the bacillus is the cause of the rhinitis or only an association. Its invariable occurrence in the scarlatinal rhinitis investigated by Todd supports the idea that at any rate in such cases as those it is the actual cause. Cases of fibrinous rhinitis in scarlet fever are generally held to be due to the diphtheria bacillus. Graham-Smith (7) collected cases of "chronic membranous rhinitis" from various investigators, and states that all the (eighty-four) cases showed diphtheria bacilli, of which seventy-six were virulent. In atrophic rhinitis also Symes (13) found that out of twenty-three cases (mostly adults) these bacilli were present in twenty, and that both of the two that he tested on guinea-pigs behaved like virulent Loeffler bacilli. On the whole it appears probable, though not certain, that the rhinitis is the result of infection with the bacillus.

In my former paper on this subject I mentioned that of ninety-eight primary cases no less than sixty-seven (*i. e.* 68 per cent.) had suffered from rhinitis since return from hospital, as shown by nasal discharge, or sore nostrils, or by a history of "cold in the head" since return; and of these sixty-seven persons, fifty (or 74 per cent.) gave positive swabs some time after the onset of their illness.

On the other hand, a number of return cases have followed upon the return from hospital of patients who have not had any signs of rhinitis, and who yet show bacilli morphologically, like Loeffler's bacilli (in some instances definitely proved to be *Bacillus diphtheriæ*).

If the action of the diphtheria bacilli is merely to keep alive a pathological condition (rhinitis) in which the hypothetical germs of scarlet fever can continue to remain virulent, presumably this is a property shared by other organisms which can cause rhinitis (I have seen many cases of rhinitis during and after scarlet fever in which negative swabs were repeatedly given). It may be, however, that

this bacillus has a peculiar property itself of enabling the virus of scarlet fever to flourish (symbiosis) even without causing rhinitis.

Bearing upon the mode of action of the bacilli I have collected cases of scarlet fever occuring during the period (two years) under review in which the scarlet fever (confirmed as to diagnosis after admission to hospital) occurred after the return to the same house of a patient from the fever hospital who was sent in for supposed scarlet fever, but in whom the diagnosis was revised to " not scarlet fever." None of these primary cases gave any evidence either in hospital or subsequently of having contracted scarlet fever during their stay in the institution. I have not counted cases in which the first patient had clinical diphtheria.

In this series I have fourteen cases, of which twelve were swabbed after the occurrence of the return case; and of these twelve, eight were positive and four negative (two of the three positives which were isolated proved to contain typical *Bacillus diphtheriæ*). I think these cases are particularly significant as admitting of the explanation that in contracting these bacilli, which are so prevalent in the scarlet fever hospital, the patients thereby became able to spread scarlet fever, although they themselves had not shown any signs of this disease—as if the diphtheria germ brought with it the scarlatinal virus.

It may be here stated that the hospital results have not shown the return cases to give a much higher proportion of positive results at the time of admission to hospital than cases in general. During 1911 thirty-four out of ninety-six return cases thus examined on admission gave positive results—*i. e.* 35 per cent. compared with 30 per cent. (both hospitals) for all cases. It should be noted that this refers to total " positives " and not to definitely proved *Bacillus diphtheriæ*, the necessary isolation not having been carried out.

As bearing upon this connection between the diphtheria bacillus and scarlatinal infectivity, it is interesting that there is some evidence of a certain degree of clinical and epidemiological interdependence between the two diseases. For instance, it is the experience of many fever hospital doctors that scarlet fever cases are more liable to contract diphtheria than are normal children, and the two diseases seem to be more frequently co-existent in one patient or one family than mere chance would explain. The distribution of diphtheria throughout the year in this country also corresponds with that of scarlet fever, both diseases increasing in prevalence during the latter half of the year. There is also a partial tendency for the cyclical variation in scarlet fever from year to year to be accom-

panied by corresponding variations in diphtheria—that is to say, scarlet fever "epidemics" are often simultaneous with similar increases in diphtheria. The Birmingham figures for the past twenty years show this latter correspondence to be only partial, and there are certain other respects, such as the epidemic wave-length of the two diseases in schools, in which they are quite at variance. However, I have noticed that in schools where outbreaks of scarlet fever are occurring there are not infrequently more cases of diphtheria than usual.

The natural corollary to concluding that the diphtheria bacillus in scarlet fever cases tends, either by causing rhinitis or in some other manner, to increase the proportion of return cases, is the consideration of how to keep hospital cases free from the germ. If the positive patients were to be isolated from the negative ones on admission, the "positive" wards would have to be almost as big as the "negative" wards, and the practical difficulty would arise of the impossibility of making an accurate diagnosis in some cases of the bacillus in question without isolating and testing it. A further difficulty would arise from the definite fact that a patient may have the germ about his nose or throat without it being revealed on one swabbing. Moreover, at any rate in wards where this rigid separation is not practised, cases of rhinitis with this bacillus frequently occur, and such cases can quickly infect others in the ward who were previously negative. The nurses in scarlet fever wards are sometimes found to be "positive," and this would probably be another difficulty. Attempts to avoid discharging patients with the *Bacillus diphtheriæ* would be met by the difficulty that the condition is often very intractable, and may persist a long time. I have seen cases which remained positive for more than a hundred days after discharge from hospital. I understand that the injection of diphtheria antitoxin does not clear up the germs, and I have no knowledge or information as to the more hopeful method of injecting vaccines of the bacillus.

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AN EPIDEMIC OF SPECIFIC PAROTITIS IN SCHOOL-CHILDREN.

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A girl, aged 7 years, attending the School Clinic was found during one of her visits to be suffering from specific parotitis. This case was investigated and followed up, disclosing an epidemic of a mild type occurring during the first three months of the present year.

On the accompanying sketch of the borough the affected district is marked A, and constitutes about one-eighth of the borough area, enclosing some sixty streets from which are drawn the children who attend the four schools marked cn, b, n, ce.

The four schools under review have accommodation for 5848 children, who form roughly one eighth of the school population of the borough. The schools may be taken as fully occupied, since an additional temporary department at one of the schools makes up for any vacant places which may arise in these schools.

The distribution of the houses in this area makes ce and cn much nearer each other than to either b or n.

Table I shows that 222 children (4 per cent. of the total number of children in these schools) were affected. This number does not include 51 children, suffering from parotitis, who had not yet entered school.

Of the total 222 children affected 97 (43·7 per cent.) were boys and 125 (56·3 per cent.) were girls.

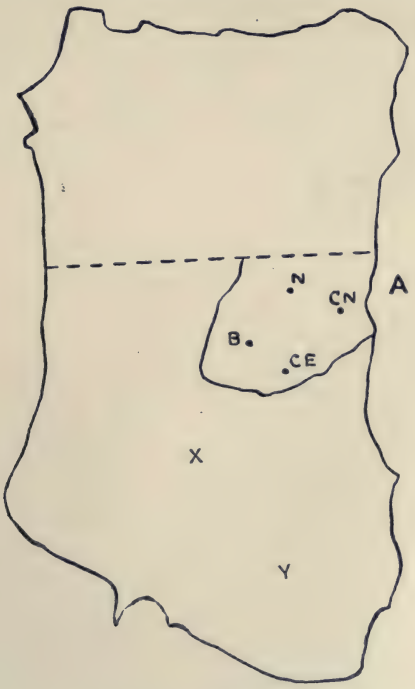
It might be well to point out that the departments in these schools are autonomous.

TABLE I.—*Showing Number of Cases in the several Departments with their Time Incidence.*

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March.	Total.
School CN.								
Infants.	—	—	—	—	1	4	6	11
Girls .	1	—	4	1	9	3	3	21
Boys .	—	—	—	—	2	2	2	6
School B.								
Infants.	—	—	—	—	1	36	28	65
Girls .	—	—	—	—	—	8	9	17
School N.								
Infants.	—	—	—	—	1	—	4	5
Girls .	—	—	—	—	—	—	3	3
Boys .	1	—	—	—	—	1	—	2
School CE.								
Infants.	—	—	—	—	1	28	31	60
Girls .	—	—	—	—	—	4	12	16
Boys .	—	—	—	—	—	—	16	16
	—	—	—	—	—	—	—	—
Total .	2	—	4	1	15	86	114	222

West says that "though parotitis sometimes occurs as a sporadic affection it is more commonly met with as an epidemic." In the above table it would appear that the cases which occurred in the last quarter of 1912 were of a sporadic nature and that the epidemic did not develop till the first quarter of 1913. In the course of an interesting and careful scientific inquiry into the pathology of "a fatal illness in children associated with acute interstitial parotitis," Gordon points out that "we have had an extensive outbreak of mumps this year." Gordon's four fatal cases occurred in May and June at the tail end of the epidemic. Now in an epidemic of scarlatina, a few mild cases may usher in the oncoming wave and gradually a mixture of mild and severe cases follows. Here and there a case of malignant (toxic) scarlet fever may appear; but it is usual to find such toxic cases grouped near the end of the epidemic. Up to the present there is nothing to suggest that these toxic scarlet cases may be a separate disease, but they may be looked on as cases in which the virus is reinforced and operating on suitable

soil. In Gordon's disease (malignant parotitis) the virus may simply be reinforced infection and be acting as in malignant scarlet fever. In Gordon's cases the clinical signs of parotitis were insignificant; and in the majority of the patients in the present investigation the clinical symptoms were mild in type. Gordon does not mention the state of the teeth, alveolar margin and buccal mucosa except cursorily in one of his cases. Mumps is assuming a distinctive place among the infective fevers, and Still's contention "that there seems very little ground for excluding it from specific



diseases" appears fully justified. In Gordon's cases three were boys and one was a girl; two were under 2 years and the remaining two were 5 and 9 years respectively.

Cautley states that parotitis is most common in cold weather, infants are remarkably immune, and the disease is rare in early childhood.

Grouping the children according to the phases of dentition up to the age of 14 (at 5 years complete temporary set of 20; at 12 years a complete set of 24; and at 14 years a complete set of 28) the following table results:

TABLE II.—*Age Incidence.*

Below 5 years.	6 to 12 years.	13 to 14 years.
73	136	13

Children are not now admitted to school under the age of four. It is interesting to note that during the dentition phase when the teeth are at the transition stage and showing the greatest amount of caries the figure of incidence of parotitis is highest. At that period (6 to 12 years) no less than 61·3 per cent. of the total number were affected.

Class incidence.—Children in the same class, of the same age, and living near each other, show separating periods ranging from 10 to 21 days in the exhibition of the clinical signs.

Family incidence.—In seven families the time of onset in the several members of each family was carefully inquired into and gave an incubation period of from 8 to 20 days.

Where definite information could be obtained it was found that the left side was affected first oftener than the right in the proportion of about 3 to 1.

Still speaks of a second attack as being rare. In this connection the following observation may be of some interest. In a family of six children, of whom five were in attendance at the same school, three were suffering from mumps, two who had had mumps at a previous time escaped, and a child of 2 years was under treatment at the same time for tonsillitis and adenitis.

Mode of spread.—In sifting the data it was found that members of the same family were in attendance at different schools. It was also noted that at least two families were attending these schools who were not correctly entitled to do so because of the distance of their homes from the schools.

Members of the same family in different schools: H. T—, attending school CN, J. T—, attending school N, and G. T—, attending school B, were attacked about the end of February.

G. G—, attending school B, showed the clinical signs of mumps about the beginning of February, and a brother, A. G—, who attended school H just outside the affected area suffered from the condition about January the 18th. Here we have a possible clue to the spread from one school to the other.

N. C—, attending school B, and S. C—, attending school CE, had mumps about the third week in February.

From school B, a child living at the position Y on the sketch was sent home with a swollen neck at the end of February. At about

the same time as he was affected the condition appeared in the school in Y district. And from the position X two brothers were attending school CE well out of their legitimate district and suffered in the early part of March.

Effect on the future of the child.—A rough calculation may put the loss in grant occasioned by the above outbreak at between £30 and £40. This monetary value in the official mind will be looked upon as slight. But in view of the great and increasing importance attaching to the Choice of Employments Act the absence of a child from school now is of grave moment. Its chance of employment will depend much on the class to which it attains before leaving school.

Conclusions.

(1) An epidemic of mumps presents all the features of an epidemic of any of the infectious fever.

(2) Malignant cases may occur (Gordon's cases), as in scarlatina, at the end of the epidemic.

(3) Members of the same family should attend the same school.

(4) Children should attend the schools in their own districts.

(5) The control of an epidemic by closing a school or part of a school will become increasingly difficult owing to children's visits to cinemas.

(6) So soon as any suspicion of an epidemic or even the presence of an infectious disease presents itself to the teacher, the school medical service should at once be put in operation to control its progress, and limit if possible the severity of individual attacks by appropriate hygienic advice.

(7) No epidemic of a supposed mild disease should be looked on lightly.

(8) Every means possible should be taken to avoid the absence of children from school, and the principal weapon in this direction is the school medical service.

I am indebted to the Chairman of the West Ham Education Authority for permission to publish this paper. My thanks are due to the head-masters and head-mistresses of the schools named for their kindly co-operation, and also to Nurses E. H. Tanner and A. Rate for their valuable assistance.

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THE INTESTINE AS A PATHWAY OF INFECTION TO THE TUBERCLE BACILLUS, WITH SPECIAL REFERENCE TO THE PART PLAYED BY DIARRHŒA.*

By Leonard Findlay, M.D., D.Sc. (Glasgow).

In view of the great divergency of opinion regarding the question as to whether the healthy intestinal mucosa is pervious to the tubercle bacillus, and of the faulty technique in many of the experiments carried out to elucidate this point, and because it is one of great practical importance, the author carried out a series of experiments with improved technique. The *materies morbi* in the form of a culture of the bacilli was suspended in oil and placed in a gelatin capsule, which was slipped just within the nozzle of a stomach-tube and ejected by forcing a stream of water through it after its passage. It had been previously found that the introduction of an emulsion of the bacilli by the stomach-tube almost invariably gave rise to insufflation tuberculosis, and any abdominal operation for its introduction directly into the stomach allowed of infection of the peritoneum.

In consequence of the frequency with which catarrhal conditions of the intestine are present in childhood, the period of life when the tubercle bacillus is believed to enter most frequently by the intestine, the question was studied in normal rabbits and in rabbits which had recently suffered from intestinal catarrh. This was induced by means of an infusion of senna and gamboge. Both the human and bovine types of the tubercle bacillus were experimented with.

In a series of twelve healthy animals fed as above described with bovine tubercle bacilli, and killed at periods varying from four to ten days later, living tubercle bacilli were demonstrated in the mesenteric glands from two of the cases by animal experiment. In another series of five rabbits which had previously suffered from diarrhœa and killed six to eight days after the ingestion of the organisms, living bacilli were demonstrated in the mesenteric glands in one case. In neither series were living bacilli found in the lungs.

In healthy rabbits fed on living bovine tubercle bacilli and allowed to live for prolonged periods, tubercular lesions were discovered in all those that survived at least fifty days. The appendix

* An abstract of a paper read before the Section of Diseases of Children of the Seventeenth International Congress of Medicine, London, on August the 7th, 1913.

and adenoid patch at the ileo-cæcal valve were invariably the seat of nodules, the mesenteric glands less frequently, and the lungs only when the experiments were at least of seventy days' duration. In a similar series of long-period experiments in which the rabbits had previously suffered from enteritis, induced by gamboge and senna, tubercular lesions developed as early as nineteen days, and were present in all that survived at least thirty days. The lesions were similarly distributed, but much more extensive and more frequently generalised. A diarrhœal animal presented lesions at twenty days as extensive as those found in a healthy animal after a duration of sixty days.

Healthy rabbits fed on tubercular sputum and on emulsions of human tubercle bacilli and allowed to live for long periods afterwards did not develop tuberculosis. In sixteen animals so treated, tubercle bacilli were detected on one occasion in films of the mesenteric glands, while of five rabbits which had previously suffered from diarrhœa, four killed at periods varying between thirty-seven and sixty-three days after the ingestion presented tubercular lesions. The animal which remained free of tuberculosis had recovered for about eight days from the symptoms of enteritis, whereas in the other animals the inoculation took place only two days after the cessation of the diarrhœa. The lesions when present were situated in the appendix and adenoid patch at the ileo-cæcal valve, and in the mesenteric glands. As one can understand, the lesions with the human type of the bacillus were much less extensive, and in marked contrast to the experiments with the bovine type of organism, where the intestinal mischief was invariably the most extensive, the mesenteric glands were more severely affected than the bowel.

Conclusions.

(1) Healthy rabbits can be infected by the ingestion of large amounts of bovine tubercle bacilli.

(2) The bacilli can pass through the apparently intact intestinal mucous membrane and reach the mesenteric glands within a period of six days; this, however, does not frequently happen.

(3) When infection occurs the intestine is invariably the seat of lesions, and thus tuberculosis of any organ, other than the intestine, is always a secondary infection when the bacilli have entered by the intestinal route.

(4) Catarrh of the intestine does not favour the passage of the

tubercle bacillus through the wall, but allows of a more constant, and also of an earlier and more wide-spread infection of the bowel, and in this way facilitates dissemination.

(5) Healthy rabbits apparently cannot be infected by the ingestion of large amounts of the human tubercle bacillus.

(6) Rabbits just recovered from intestinal catarrh developed tuberculosis after the ingestion of human tubercle bacilli.

(7) With the human type of organism a local lesion, though always present, may be slight in comparison with the diseased foci in the mesenteric glands.

(8) It would seem that the best means of combating the spread of bovine infection in childhood—until tuberculosis of cattle is eradicated—is in the avoidance of everything likely to cause intestinal catarrh.

XVIIth International Congress of Medicine.

London, August the 6th to the 12th, 1913.

SECTION OF DISEASES OF CHILDREN.

President: Dr. Eustace Smith.

Surgical Treatment of Tuberculosis.—Dr. V. Ménard (Berck-sur-Mer) said that tuberculous osteitis should be separated from tuberculous osteo-arthritis. Evacuation was often applicable for the cure of tuberculous osteitis, especially with fistulæ, whether distant from or close to the joints. The local treatment of tuberculous arthritis depended on the conservative method, which was almost always successful if applied throughout the whole course of the disease. The best operative methods, including filling, could not be substituted for conservative methods.

The most pressing indication for operation—septic suppuration—was usually due to neglect in the conservative treatment. Surgical interference was also required for associated and accidental infections and certain cases of joint tuberculosis. An operation such as drainage or atypical resection removed an obstacle to local repair. Mortality from operation was very low except for hip disease, and the results were good if the after-care was properly carried out.

In spite of the progress of medical treatment of glandular tuberculosis, there was still a part for surgery to play in the rapid removal of a localised mass of glands in the groin, axilla and neck. The length of the scar could easily be limited. Whether operated on or not, the patient could only recover if placed under favourable conditions for a long time.

The Necessity for a more thorough Control of the Milk Supply in combating Surgical Tuberculosis in Childhood.—Mr. H. J. Stiles (Edinburgh), as the result of his experience at the Edinburgh Hospital for Sick Children, was convinced that Koch was mistaken in disregarding milk as the source of tuberculous infection in children. Though pulmonary tuberculosis in adults was usually due to infection through the respiratory tract, in children infection was usually conveyed through the alimentary canal. Of sixty-seven tuberculous bone and joint cases investigated by his assistant, J. Fraser, the bovine bacillus was present in forty-one (61 per cent.) and the human bacillus in twenty-three (34 per cent.), while in three cases both types were present. Forty-one children were under four years, and of these 78 per cent. owed their disease to the bovine bacillus. The same bacillus was the organism found in all the children aged less than twelve months, and these had all been fed entirely on cow's milk. Of seventy-two cases of tuberculous cervical adenitis operated on at the Sick Children's Hospital and investigated by A. F. Mitchell, in sixty-five the disease was due to bovine bacilli and in only seven to the human bacillus.

Thirty-eight of the seventy-two occurred in children under five years, and of these all but three were bovine affections.

In sixty-four cases the tonsils were removed from children suffering from tuberculosis of the upper carotid glands. Histological evidence of tuberculosis was found in 39 per cent. The bovine bacillus was found in twelve and the human in three cases.

Mr. Stiles held that the prevalence of tuberculosis in his country was due to the frequency of the disease among dairy-cows and to the rarity with which milk was sterilised.

The First Signs of Pulmonary Tuberculosis in the Infant.—Dr. P. van Pée (Verviers) advocated Goldscheider's method of percussion as the simplest and most precise means of examining the lungs of infants. After experience of his method the speaker differed from the majority of pædiatrists, who hold that tuberculosis in infants is usually latent, and that its manifestation is rapidly followed by a fatal issue. In the immense majority of cases he believed it was possible to suspect, if not to affirm absolutely, the presence of tuberculosis, and that most of these cases, as in the adult, were of chronic evolution, with a tendency to relapses and further extension.

Causes of Death among Infants during the first four weeks after Birth (Joint Sessions on the Sections of Diseases of Children, of Obstetrics and Gynæcology, and of Hygiene and Preventive Medicine).—Dr. A. K. Chalmers (Glasgow) said that the deaths under one month formed almost one third of the total deaths throughout the year, and that those occurring in the first week made up a half of those occurring in the first month. Two thirds of these deaths within a month were due to an inborn physiological inability to live rather than to acquired disease. Statistics showed that urban infants were nearly as healthy at birth as those born in rural districts, and that the mortality in the first month was the same in both. Deaths certified as due to premature birth had increased disproportionately in the last ten years. Stillbirth appeared to be more common at the beginning and again at the end of the child-bearing period.

Dr. H. Koplik (New York) laid stress on the close connection between infantile mortality in the first month and pre-natal influences, such as syphilis, tuberculosis, heart disease and diabetes in the mother. From

statistics compiled by him from the Board of Health records of New York City, he had found that 4·1 per cent. of all children born died during the first four weeks of life. Of all children who died in the first year, 33·3 per cent. died in the first month. The largest number of deaths occurred in congenitally weak infants, and accounted for half the total deaths. The next greatest cause of death was injury at birth, or sepsis with umbilical hæmorrhage. Syphilis, probably owing to difficulty in diagnosis, accounted for only a few deaths—47 out of 2732. Pre-maternity hospitals and instruction were urgently needed. Artificial feeding by a well-trained mother or nurse was preferable to wet-nursing.

Dr. WALLICH (Paris) said that of 4833 deaths in the first month, 571 died before the fourth day, 297 from the fifth to the ninth day, 401 from the tenth to the nineteenth day, and 239 from the twentieth to the twenty-ninth day. The mortality during the first month was considerably greater than in the other months of the first year, varying from a quarter to a half of the total mortality. The number of deaths was greatest during the first three weeks. Among the causes of death prematurity was the most important, next injury at birth, and then gastro-intestinal disorders.

Influence of Ductless Glands on Development.—Mr. HASTINGS GILFORD (Reading) discussed the question of the ductless glands from the clinical and experimental standpoint, and said that the causes of their defective or excessive action must be sought in genetics. The leading part in the concerted action of the ductless glands was probably played by the thyroid, which supplied a stimulus for the body as a whole. During infancy and childhood the influence of the thyroid was checked by the thymus gland, the lymphatic system, and perhaps by the pineal gland. These delayed sexual activity, and were essential for the proper maturation of the body as a whole. The adrenals were probably the first to awake the dormant sexual organs and hasten the growth of the muscular and skeletal systems. The skeletal system was still further stimulated at the same time by the secretions of the pituitary gland, which also hastened the development of every organ in the body, including the sexual glands.

Chronic Incomplete Suprarenal Insufficiency in Children.—M. D'ŒLSNITZ (Nice)—In childhood, either spontaneously or as the sequel of an acute disease, certain troubles attributable to partial insufficiency of the suprarenals may be met with, troubles which, though ill-marked, are persistent, and are likely in course of time to have a bad effect on the general condition and development of the child.

In very young children delay in development is noted, the weight remains stationary, the height does not increase, the muscles are flabby, and walking is delayed. The child is apathetic and sometimes drowsy. Suprarenal treatment or administration of small doses of adrenalin causes a more or less rapid disappearance of these symptoms. A little later there is delay in increase in height. In the oldest children, especially in boys before puberty, a state of apathy is noticed, together with physical and mental sluggishness. The blood-pressure is low. Suprarenal opotherapy causes a rapid improvement of the mental and physical symptoms. The child becomes more lively, works better, is less easily fatigued, the blood-pressure rises, and the height and weight increase in a few months.

Though a similar condition may undoubtedly be produced by other causes than suprarenal insufficiency, the occurrence of the symptoms

described justifies a prudent trial of suprarenal treatment, the success of which confirms the reality and relative frequency of incomplete suprarenal insufficiency in infantile pathology.

Infection of the Urinary Tract in Children with Colon Bacilli.—Dr. JOHN THOMSON (Edinburgh) read a paper based on seventy-one personal cases. In thirty-two the symptoms had set in shortly after some weakening disease or experience. In three fourths of these cases this had been some bowel trouble. The disease was twice as common under two years as after that age, and was generally more severe in younger children. There was, however, an extremely chronic type almost entirely confined to later childhood, and usually arising after an acute illness, especially measles. Seventy-nine per cent. of his cases occurred in girls, thus indicating that an ascending infection by the urethra was common. In young infants diarrhœa was a more frequent initial symptom than in older children, and was more marked in boys than in girls. During the first six months of life far more boys than girls were affected, but after the sixth month girls largely predominated. Rigors were extremely rare at the onset in boys but frequent in girls. Mild cases of *B. coli* infection were rare in boys, among whom there was a much larger proportion of cases of fatal pyelonephritis than among girls. The frequency of pyelonephritis in boys was explained by the infection having passed straight from the bowel to the kidney instead of having passed upwards from below.

The symptoms depended upon the severity of the inflammation and the part of the urinary tract affected. In cystitis the symptoms might be ill-marked, especially if the child was already ill with intestinal or other disorders. Sometimes there was frequent or painful micturition, and perhaps some hæmaturia and an offensive odour of the urine.

There was little or no pyrexia.

The most important cases were those in which the parts above the bladder were affected—pyelocystitis, pyelitis and pyelonephritis. In these the local symptoms were slight and the general disturbance very severe. The appearance of the urine was much the same whether the case was one of simple cystitis, pyelitis, or pyelonephritis. On passing it was usually slightly cloudy or opalescent, decidedly acid, and contained numerous pus-cells and *B. coli*. Treatment: Large quantities of fluid should be given, if necessary by stomach-tube or *per rectum*, and the bowels should be freely moved. Other forms of treatment were: (1) Alkalinisation of the urine, for which large doses of potassium citrate were needed; 60 gr. should be given if the patient were under two years, and often double that amount was required. (2) Antiseptics: Salol was of most use when given in addition to alkalies in doses of 3 or 4 gr. three or four times a day. Urotropine and its derivatives were usually ineffectual in *B. coli* infection. (3) Serum and vaccine treatment: Dr. Thomson had had no experience of the first, and with the latter he had had disappointing results.

(*To be continued.*)

Société de Pédiatrie, Paris.

June the 10th, 1913. (*Bulletin No.* 6.)

Intractable Vomiting cured by Hypersaccharated Homogenised Milk.—M. Variot showed a male infant, aged 9 months, who had suffered from vomiting since birth. His weight was kil. 4·450, height 61·5 cent. As he had vomited the breast milk, the mother had tried, without success, several kinds of milk and milk mixtures. Variot first put him on eight meals daily of condensed sweetened milk (Gallia brand)—three teaspoonfuls to 90 grm. of boiled water. The vomiting ceased immediately, and the child gained 110 grms.' weight in twenty-four hours. Radioscopy negatived the presence of any tuberculous focus in the thorax, but the stomach, which contained a large quantity of air, was very dilated. The improvement continued until the mother substituted another kind of condensed Swiss milk, *unsweetened*, when the vomiting returned. He was then put on hypersaccharated homogenised milk (Lepelletier), and improvement set in immediately.

Spasmophilia associated with Hydrocephalus in the course of Acute Encephalitis.—M.M. Triboulet, Debré and Godlewski showed a boy, aged 10 months, who, at the age of seven months, was attacked with persistent convulsions and a certain degree of chronic encephalitis with acute hydrocephalus. Wassermann reaction both of mother and child was negative. The child had horizontal lateral nystagmus and flaccid monoplegia of the left upper extremity. He subsequently developed Chvostek-Weiss' sign (hyperexcitability of facial), Erb's sign and spasm of the glottis. It was doubtful whether the condition was due to digestive intoxication, parathyroid changes, calcium insufficiency, or to some cerebral condition.

Late Rickets, Osteomalacia and Tetany.—MM. Apert and Lemaux showed a girl, aged 18 years, having the appearance of a child of eight. The pelvis was osteo-malacic, and the neck of the femur softened. She was the subject of epileptiform attacks, and presented symptoms of thyroid insufficiency.

Tuberculous Pulmonary Sclerosis with Bronchial Dilatation.—M. Barbier showed a case in a girl, aged 8 years.

Pernicious Anæmia and Splenomegaly.—M. Barbier showed a girl, aged $10\frac{1}{2}$ years, with this condition, complicated by cutaneous and gastric hæmorrrhage. Treatment consisted of calcium chloride for the hæmorrhage, beef marrow, Fowler's solution alternating with syrup of tartrate of iron and glycero-phosphate of lime, and heliotherapy, *i. e.* exposure to sun's rays twice daily for fifteen minutes. The blood condition was cured, but the enlargement of spleen remained.

Severe Scoliosis treated by Abbott's Method.—M. Lance showed six cases treated by this method.

The Treatment of Port-wine Stains.—M. Albert Weill showed three cases treated by emanations of radium obtained from Lindemann's

ampoules à fenêtre, which allow the passage of rays of feeble penetrative power.

Congenital Syphilis with Motor and Mental Debility and External Ophthalmoplegia.—M. Marcel Nathan.

Mitral Stenosis in a Congenital Syphilitic.—M. Nathan.

Barlow's Disease.—MM. Hallé and Masselot showed the femur of a child, aged 1 year, who died on the eighth day of a severe scurvy. There was hæmorrhagic infiltration of the muscles, thickening and vascularity of the periosteum with subperiosteal hæmatoma.

Albuminous Milk and the Danger of Deprivation of Sugar in Infants.—MM. Nobécourt and Schreiber.—Albuminous milk, according to the formula of Finkelstein and Meyer, differs from ordinary milk in having less sugar and salts and being rich in albumin, the quantity of fat remaining normal. The authors treated twenty-one cases of diarrhœa and athrepsy on this method; in two satisfactory results were obtained, in five doubtful benefit, and in fourteen decidedly bad results. These last, it must be admitted, were children that probably would not have been saved by any method of diet. Vomiting, loss of weight, hypothermia and eczema were noticed. The authors consider that the harmful action of sugar is not evident, and its suppression is useless, and may be detrimental.

Meningitis with Koch's Bacillus and Pseudo-meningococcus.—MM. Salin and D'Allaines reported the case of a child, aged $3\frac{1}{2}$ months, seized with symptoms pointing to tuberculous meningitis, viz. somnolence, convulsions and slight rigidity; but the presence of large numbers of polynuclears in the cerebro-spinal fluid and increase of contractures pointed also to a cerebro-spinal meningitis. Dopter's serum was injected without avail. Koch's bacillus and *Diplococcus flavus* were obtained from the cerebro-spinal fluid.

Vincent Dickinson.

Abstracts from Current Literature.

Medicine.

Lumbar puncture in children (*'Post-Graduate,'* 1912, xxvii, *p.* 892).—**G. R. Pisek** uses an aspirating needle sterilised by boiling. The infant is put in the sitting posture, but well forward. The needle is put into the space just above or just below the fourth lumbar vertebral spine, in the median line. At least 15 c.c. may be withdrawn, or in older children up to an ounce; if for the relief of intra-cranial pressure the fluid should flow till all evidence of pressure has ceased. The fluid should be examined macro- and microscopically, and also chemically for dextrose, cholin and neutral fat. Normal fluid is amphoteric, but in meningitis it is acid and dextrose is often absent while appreciable quantities of albumin and globulin are present. Therapeutically lumbar puncture may be useful for relief of pressure symptoms; in sudden collapse with coma, headache, delirium and convulsions by relieving a toxæmia. It also serves for introduction of specific sera,

such as Flexner's serum for cerebro-spinal meningitis, tetanus, antitoxin, etc. J. Porter Parkinson.

Lumbar puncture an aid to diagnosis; its value in relieving convulsions (*'Arch. of Ped.,'* 1913, xxx, *p.* 131).—**L. Fischer** recommends an aspiration empyema needle, and the withdrawal of 15–20 c.c. for diagnostic purposes; if the spinal fluid be turbid then as much as 50 to 60 c.c. should be withdrawn. A dry tap may result from a small needle, and a thick cerebro-spinal fluid from adhesions preventing passage of fluids from the ventricles to the subarachnoid space and from a fibrin clot in front of the needle. To ensure that the needle is in the canal leave it *in situ* and insert another two spaces lower down, then sterile water injected through the upper will flow out of the lower needle. By lumbar puncture convulsions are far more readily controlled than by chloroform, especially if combined with enemata.
Christopher Rolleston.

A new lumbar puncture needle (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 1204).—**J. M. Wolfsohn** describes a new and ingenious needle for lumbar puncture by means of which the manometer reading of the pressure can be quickly made, and fluid can be withdrawn or introduced into the spinal canal without much manipulation. An irido-platinum needle 9 cm. long is attached to an elbow into the horizontal arm of which a plug is fitted. This plug can be removed and a stylet inserted should the needle become clogged. The vertical arm is attached to a three-way stopcock, one arm of which comes off at right angles to the direction of the needle and is used to withdraw the fluid. To the vertical arm of the stopcock a manometer can be fixed. When the needle has pierced the skin the indicator of the stopcock is turned towards the manometer, and as soon as the spinal canal has been reached a rush of fluid takes place into the manometer. The pressure is read, and then by turning the indicator the fluid can be run off. Another reading of the pressure can now be made by simply turning the indicator. If serum or other fluid is to be inserted, the manometer is replaced by a syringe. When the operation is completed the stopcock is closed and the needle withdrawn without the loss of a single drop of fluid. T. R. Whipham.

Irrigation of the spinal canal as a preliminary to the introduction of antimeningitic serum (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 828).—**D. I. Hirsch** advocates irrigating the spinal canal in cases of epidemic meningitis prior to the introduction of antimeningococcic serum. In severe cases the persistence or progression of the infection arises from the inaccessibility of the diplococci in thick exudate in isolated parts of the membrane or in the blocked-up cerebral ventricles, but as it is impossible to say in which cases this is likely to occur the author suggests that irrigation should always be employed. Thirty to 40 c.c. of fluid are first removed by lumbar puncture and then with a small syringe 30 c.c. of normal salt solution at 100° F. are introduced into the canal under gentle pressure. This is allowed to return, and the process is repeated three times in those cases in which the fluid is cloudy, or in purulent cases until the fluid is returned clear. Two cases are reported in which the procedure was successful, recovery being rapid in both instances. T. R. Whipham.

Accidents following the subdural injection of the antimeningitis serum (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 1937).—**S. Flexner** is of

opinion that the ordinary forms of serum disease which follow the subdural as well as the subcutaneous or intravenous injection of horse-serum may be disregarded as unimportant. A small number of severe accidents, however, including death have been recorded, and these have been variously attributed to (1) anaphylaxis, (2) rapid lysis of the meningococci, (3) excessive intracranial pressure, and (4) poisoning by the phenol preservative sometimes present in the serum. The last hypothesis is disposed of by the fact that similar accidents, though rare, have followed the use of a serum, such as Dopter's, which is supplied without preservative. As regards anaphylaxis severe symptoms have been noted to follow a first injection of the serum, but in other instances a severe reaction has not occurred until after the second or third injection, given at brief intervals. In these the author thinks that anaphylactic shock can be excluded, and he is inclined to the belief that on the whole anaphylaxis is not the cause. In other cases an attempt has been made to explain the severe symptoms sometimes following the first injection of the anti-meningitis serum on the supposition that the serum brings about such a rapid dissolution of the meningococci within the cerebro-spinal exudate as to cause an acute poisoning of the nervous system. This the writer considers is inadequate to account for most instances observed in man, since it does not apply to the cases in which severe symptoms arose, but in which the number of meningococci within the inflammatory exudate was very small, or in which the meningitis had been caused, not by the meningococcus, but by the pneumococcus. The remaining possible source of accident is that of increased intra-cranial pressure, and this Flexner considers the most likely. In this connection it should be recalled that the severest symptoms relate to disturbance of respiration and in a far slighter degree to the heart's action. Cushing states that the medullary centre of respiration already impaired by compression endures an additional burden less well than a medulla not so embarrassed, and has observed that in deaths from a fatal increase of intra-cranial tension arrest of respiration precedes that of the heart. At the inception of the serum treatment it was advised to inject less serum than cerebro-spinal fluid removed and not to employ maximal doses. Various methods of controlling the pressure when injecting the serum also have been advocated, such as allowing it to flow under the force of gravity rather than that of a syringe or by regulating the pressure by means of a manometer. T. R. Whipham.

A possible source of danger in the use of antimeningitis serum (*'Journ Amer. Med. Assoc.,'* 1913, lx, *p.* 1348).—**S. P. Kramer** describes eight cases in which a fatal result apparently followed the injection of antimeningococcic serum into the spinal canal. The patients were all children between the ages of ten months and ten years. In six cases death occurred from paralysis of the respiratory centre a few minutes after the injection, and in the remaining two the respiratory paralysis was relieved for a time by artificial respiration, but the patients succumbed later from that cause. From the similarity of these cases to those of respiratory paralysis following the lumbar injection of cocaine the author believes them to be toxic in nature. He supposes that the needle enters the central canal of the cord, and that the serum, which should be injected into the subdural space, finds its way to the fourth ventricle. Experimentally 2 c.c. of antimeningococcic serum injected into the vertebral artery, which directly supplies the hind brain, in a dog caused cessation of respiration for ten seconds, and the same result occurred when using ·5 per cent. solution of tricresol in water. Kramer is,

therefore, of opinion that serum containing ·5 per cent. tricresol cannot safely be injected into the subarachnoid space. T. R. Whipham.

Prolonged cerebro-spinal meningitis (*'La Med. de los Niños,'* 1913, xiv, *p* 17).—**Elizalde** and **Navarro** describe three cases where the disease took an almost chronic course. (1) A child in whom death occurred 16 months after the commencement of the illness. The onset was abrupt and the acute symptoms lasted some weeks. To this succeeded a chronic phase with blindness and hydrocephalus. The cerebro-spinal fluid varied considerably at different times. The meningococcus was still present four months after the onset. (2) A child, aged 4 years, in whom after a short acute stage cachexia brought about death after more than three months. Weichselbaum's meningococcus was present. (3) A child, aged 11 years, where the acute symptoms lasted about a fortnight; the child gradually wasted with many intercurrent symptoms and died three months after admission to the hospital. In this case no organism could be isolated from the cerebro-spinal fluid during the whole course of the disease. The case at first presented signs of a general septicæmia; a week later there was a swelling of the right orbit. The pus was removed; the meninges were found to be normal and there was no improvement in the symptoms. Fourteen days after the operation meningeal symptoms supervened. Post mortem basal meningitis was found and cultures showed Fraenkel's pneumococcus. The writers suspect this was the causal organism. In these chronic cases acute symptoms may occur from time to time. M. D. Eder.

A case of pneumococcus meningitis with normal cerebro-spinal fluid (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 972).—**J. M. Brady** reports the case of a male infant, aged 1 year, who had signs of pneumonia over the lower lobe of the right lung and of meningitis. On lumbar puncture 4 c.c. of clear serous fluid were withdrawn under less than normal pressure. No micro-organisms were found in the fluid and no increase of the cell-content. The child died the following evening. At the necropsy broncho-pneumonia and fibrino-purulent pleurisy were found in the right lung, and a thick fibrino-purulent meningitis over the convexity and parietal surface of the frontal lobes extending back to the parietal lobes. The base was not involved. The exudate showed an organism corresponding in all respects to the pneumococcus. The thick and tenacious character of the pseudo-membrane covering the brain with almost no liquefaction of this exudate was sufficient to explain the reason for the failure of the cerebro-spinal fluid to reveal the actual condition. The author comes to the following conclusions: (1) The positive diagnosis of pneumococcal meningitis may be impossible during life. (2) A normal cerebro-spinal fluid may be obtained throughout the disease. (3) Anatomical changes (encephalitis, meningitis) occur oftener than is usually believed, and are the explanation of nervous symptoms which have been regarded in the past as functional (meningismus).

T. R. Whipham.

Curable meningeal states in children (*'Arch. de méd. des enf.,'* 1913, xvi, *p.* 44).—**J. Comby** records two cases of the meningeal form of Heine-Medin's disease. Children sometimes present symptoms which at first suggest tuberculous meningitis, or more frequently epidemic cerebro-spinal meningitis. When lumbar puncture is made the clear fluid and lymphocytosis indicate the former disease. Recovery, however, takes place more or

less rapidly without any sequelæ, or else in a few days infantile paralysis develops. J. D. Rolleston.

The tension of the cerebro-spinal fluid in tuberculous meningitis (*'Riv. di Clin. Ped.,'* 1913, xi, *p.* 84).—**E. Palmegiani,** from her extensive researches on this subject, concludes that in this disease there is a tendency to hyperosmosis of the cerebro-spinal fluid, but this tendency diminishes with the progress of the disease. The osmotic density of the blood undergoes the same modification as the cerebro-spinal fluid. From examination of the urine and histological examination of the kidneys she finds that in the great majority of cases there is no parenchymatous lesion so diffuse or so marked as to suggest any deficiency of renal secretion.

Vincent Dickinson.

Lack of equilibrium in tuberculous meningitis (*'Arch. de méd. des enf.,'* 1913, xvi, *p.* 613).—**A. D'Espine** describes a condition called static ataxia as an early sign of the above disease. The child is placed on his feet, and the trunk immediately begins to oscillate and the patient will fall unless prevented. In a case described, post-mortem examination showed a tuberculous lesion of the upper part of the superior vermis and of the cerebellar hemispheres. F. R. B. Atkinson.

Hæmorrhagic pachymeningitis, meningeal hæmorrhage, and tuberculous encephalo-meningitis in a child, aged 2 years (*'Gaz. hebd. des Sci. Méd. de Bordeaux,'* 1913, xxxiv, *p.* 158).—**R. Dupérié** and **E. Dubourg** narrate this case and describe the above conditions found on necropsy. Internal hæmorrhagic pachymeningitis is most frequent at the extreme ages of life. The authors throw no light on the symptoms or diagnosis of pachymeningitis and chiefly discuss the ætiological theories propounded to explain its presence. F. R. B. Atkinson.

Dissociation of axillary and rectal temperature in tuberculous meningitis (*'Thèses de Paris,'* 1912–13, *No.* 328).—**B. B. Rachid.**—In 27 cases of tuberculous meningitis in children aged from 7 months to 11 years, Voisin found 12 whose axillary temperature was higher than the rectal. Normally the axillary temperature is lower than the rectal by 0·5° C. in the adult and 0·4° in the child. Rachid reports a similar inversion of the temperature in a personal case and attributes it to bulbar disturbance.

J. D. Rolleston.

Tuberculous infantile spastic hemiplegia (*'Gaz. internaz. di med. chir., etc.,'* 1913, *p.* 31).—**S. Cannata** records three cases: (1) Girl, aged 6 years, who had had tuberculous peritonitis three months previously, suddenly developed right hemiplegia. (2) Boy, aged 3 years, the subject of glandular and cutaneous tuberculosis, also had a right hemiplegia of sudden onset. (3) Boy, aged 7 years, who presented pericardial adhesions, developed right hemiplegia followed by hemi-tremor. Four days after an orthopædic operation, headache, fever and convulsions took place and death occurred. The necropsy showed a solitary tuberculoma of the left corpus striatum invading the genu and the anterior two thirds of the posterior limb of the internal capsule. In the other two cases it was impossible to say whether the vessels were involved by the tuberculous process or whether a tuberculoma was present. All gave a positive von Pirquet's reaction. J. D. Rolleston.

A new preparalytic symptom of poliomyelitis (*'Journ. Amer. Med. Assoc.,'* 1913, LX, *p.* 813).—**J. A. Colliver** calls attention to a symptom which seems absolutely characteristic of the preparalytic stage of poliomyelitis. The symptom referred to is a peculiar twitching, tremulous or convulsive movement of certain groups of muscles lasting from a few seconds to less than a minute. The amplitude of vibration is greater than a tremor, not so constant and long as a convulsion, and more regular than mere twitching, yet it has some elements of all of these. It usually affects a part or whole of one or more limbs, the face or jaw, but it may sometimes affect the whole body. The symptom may easily be overlooked in the beginning as it usually lasts less than a second, and unless the patient is disturbed does not recur oftener than every hour or so. Later the duration of the spells lengthens to a few seconds, recurring also at shorter intervals. This condition is often accompanied by a peculiar cry similar to the hydrocephalic. At times there is a slight convulsive movement, during which time the child is apparently unconscious with eyes set for a few seconds, and then he apparently becomes perfectly normal again. This brief unconsciousness during which the child's eyes are set may occur without noticeable convulsive movements. It acts thus something like *petit mal*. The writer has observed it as a twitching of the lips with tongue running in and out and a working of jaw, preceding bulbar cases. The phenomenon resembles those found in light cases of strychnine poisoning except that the tetanic contractions are not general and do not last for a long time. They usually involve a set of muscles with one or more of the counter muscles not affected. There is also a similar hypersensitiveness of the skin. The least stimulation of the skin is followed by slight convulsive movements with rigidity of the arms, fingers separated and wrist flexed. When the patient turns in bed, through either an external stimulus or an effort to co-ordinate, the movements are quick and jerky, accompanied usually with slight convulsive movements of the limbs. The least noise produces in certain cases short series of convulsive movements similar to those in strychnine poisoning, only not so general. This symptom seems to be similar to the infection neuroses described by neurologists, of which tetany and chorea are good examples. It is not unreasonable to suppose that the presence of the virus of poliomyelitis may bring about effects similar to those of chorea and tetany. A local chemical or other irritation of the nervous centres is produced, with subsequent fatigue and later recuperation resulting in the peculiar motor phenomenon. The peculiar distribution and lack of co-ordination may be accounted for by supposing that some segments of the cord are affected, while others are not, the exciting cause being œdema, with which hæmorrhage is not uncommonly associated. T. R. Whipham.

Errors of diagnosis in poliomyelitis (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift*, *p.* 801).—**J. Zappert** includes under this title (1) cases in which poliomyelitis was either not suspected at all or at least not at first; (2) cases in which the disease was wrongly diagnosed as poliomyelitis. As examples of the first class he records a case of mild poliomyelitis simulating post-febrile debility but ending in complete recovery, a fatal case of bulbar poliomyelitis resembling laryngeal diphtheria, and another case which was mistaken for acute otitis and commencing pneumonia. As illustrative of the second class he quotes a case of acute articular rheumatism which was at first regarded as poliomyelitis. He combats the view that there is any ætiological connection between acute exanthemata and poliomyelitis, and

regards this error to be due to the frequency of scarlatiniform or morbilliform eruptions as well as of tonsillitis at the onset of poliomyelitis.

J. D. Rolleston.

The contagiosity of Heine-Medin's disease (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift, p.* 436).—**J. Langer** gives statistics of the 1909 epidemic of poliomyelitis in the Austrian duchy of Steiermark, which prove the justice of Wickman's contention that poliomyelitis is an acute infectious disease.

J. D. Rolleston.

Acute bulbar palsy following mumps (*'Rev. Neur. and Psych.,'* 1912, x, *p.* 361).—**J. Collins** and **R. G. Armour** record a fatal case in a boy, aged 11 years, in which the symptoms set in a week after a mild attack of mumps. The cerebro-spinal fluid was normal. Death took place forty-eight hours after the onset. Examination of the pons and medulla showed lesions resembling those found in poliomyelitis. The meninges of the brain stem were only slightly infiltrated.

J. D. Rolleston.

Acute encephalitis in children (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift, p.* 146).—**J. Comby.**—This may appear at any age, but chiefly occurs in the first years of life. It is frequent in infancy and up to the age of seven years; after ten it is quite exceptional. It may be primary, but is usually preceded by some infectious disease. The cerebro-spinal fluid is normal. The onset is marked by convulsions, which are succeeded by coma and flaccidity or contracture of the limbs. Sometimes recovery takes place without loss of consciousness. Right or left hemiplegia often occur and are associated with mutism or aphasia. The paralysis may persist or pass away without leaving any trace. Paralysis is not the only motor symptom of encephalitis, but it may be accompanied or replaced by athetosis or chorea. Epileptic attacks or imbecility are occasional sequels.

J. D. Rolleston.

A case of vaso-motor hemiplegia (*'Wien. klin. Woch.,'* 1912, xxv, *p.* 1044).—**A. Soucek.**—A boy, aged 10 years, whose father and brother suffered from migraine, was suddenly seized during gymnastic exercise with severe pain in the left temporal region and right hemiplegia. The symptoms disappeared entirely in three days, leaving no residues. The patient was easily excitable, suffered from cold hands and feet, and presented rigid arteries (*vide* British Journal of Children's Diseases, 1911, viii, *p.* 470). The condition was probably due to a cerebral ischæmia caused by vascular spasm similar to that causing nervous angina pectoris or intermittent claudication.

J. D. Rolleston.

Congenital aphasia (*'Pediatrics,'* 1912, xxiv, *p.* 137).—**C. W. Burn** describes the four following cases: (1) Boy, aged 12 years, with motor aphasia and ataxia of the muscles of the face and tongue, and signs of syphilis. Mercury improved the condition to a great extent, but his aphasia remained unaffected. (2) A boy, aged 3 years, who has never talked, but understands spoken language perfectly. Barring his speechlessness his mentality was normal. (3) Boy, aged 7 years. He could not write or understand printed or written words. He could speak a few words immediately after having heard them, but after the fifth year he lost all power to learn any more. (4) A girl, aged 17 years, was picked up while wandering in the streets, and was

found to be speechless save for the words "yes" and "no," not always used correctly. She understands spoken language, and can copy diagrams but not letters. F. R. B. Atkinson.

Neuroses of the sympathetic in children (*'Rev. di Clin. Pediat.,'* 1912, x, *p.* 447).—**E. Gagnoni,** in a paper read at the Italian Pædiatric Congress at Palermo in 1911, describes the symptoms met with in certain children who have characteristic signs of vaso-motor neurosis. Very often there is an inherited taint of neuropathy, arthritism, alcohol, syphilis or tubercle. The author attributes the symptoms to an angioneurosis induced by a functional disturbance, asthenic in character, of the sympathetic nervous system. This system shows a marked vulnerability in such subjects, manifested in vaso-motor disturbances such as spasm or paralysis of the nerves of the various arterial trunks, but especially in the carotid and cœliac axis. The symptoms are headache and digestive disturbances, especially in the stomach, such as sensation of burning, painful crises, hyperacidity, etc. After describing the hygienic, dietetic and therapeutic means which are efficacious in the treatment of these conditions, Gagnoni concludes with a warning as to the disastrous results which may ensue if they are neglected.

Vincent Dickinson.

Implication of the sympathetic: nervous symptoms in diseases of infants (*'Monatsschr. f. Kinderheilk.,'* 1912, x, *p.* 623).—**F. Boschán** has examined 179 infants by means of 1 : 1000 solution of adrenalin dropped into the eye, and finds that mydriasis occurs in all toxic disturbances of nutrition but is absent in healthy children, and he concludes that there is a distinct connection between the toxic diseases and mydriasis occasioned by adrenalin—in other words there is an increase of excitability of the sympathetic as a result of toxic diseases. F. R. B. Atkinson.

Facial hemiatrophy in paralysis of brachial plexus (*'Echo méd. du Nord,'* 1912, xvi, *p.* 609).—**L. Ingelrans** records a case in a girl, aged 5 years, in whom total paralysis of the right brachial plexus had occurred directly after birth and had since persisted. She had also myosis, exophthalmos, and narrowing of the right palpebral fissure. There was no facial paralysis, but there was marked right facial hæmiatrophy with flattening of the cheek and diminution in size of the maxillæ. There were no vaso-motor troubles or cutaneous changes. This is the sixth case on record of facial hemiatrophy associated with paralysis of the brachial plexus. Cournut has suggested that the hemiatrophy is due to injury to the sympathetic fibres of the first dorsal or other branches of the brachial plexus which supply trophic nerves to the face. J. D. Rolleston.

Myatonia congenita (*'Arch. de méd. des enf.,'* 1912, xv, *p.* 881).—**R. Duthoit** has collected sixty-eight cases from literature, including that recently reported by J. R. Charles in the British Journal of Children's Diseases, 1912, ix, *p.* 7, and the following personal case. Girl, aged 2 years. Family history negative. Condition present at birth, but grew worse after measles at fifteen months. All four limbs were affected, especially the legs, as well as the neck and trunk. The face was atonic. Tendon-jerks lost. Electrical reactions diminished in legs, normal in arms; intelligence normal. Marked improvement in five weeks under thyroid extract. The peculiarities of the case were the very marked looseness of the joints, the immunity of

the cranial nerves, and the abdominal type of respiration, the intercostals being atonic. J. D. Rolleston.

Myatonia congenita (Oppenheim) (*'Jahrb. f. Kinderheilk.,'* 1912, LXXVI, *p.* 300).—**O. Thorspecken** describes a case in a girl, aged 4½ years, with the classical symptoms save that there was marked muscular atrophy and dystrophy of the bones. The galvanic current showed partial reaction of degeneration. F. R. B. Atkinson.

Case of amyotonia congenita (myatonia congenita—Oppenheim) with autopsy (*'Am. Journ. Dis. Child.,'* 1913, V, *p.* 359).—**N. C. Foot** gives a very full account of a case of this condition dying at the age of 3½ months, which showed some points of peculiar interest, notably diaphragmatic changes and fatty infiltration of the muscle. He regards the condition as due to arrested development as the result of disease.

Reginald Miller.

Metabolic observations on amyotonia congenita (*'Am. Journ. Med. Sci.,'* 1912, CXLIV, *p.* 732).—**J. C. Gittings** and **R. Pemberton** made researches in a case of this disease regarding the amount of calcium and creatinin excretion, and found that there was no marked disturbance in the calcium metabolism but a largely decreased amount of creatinin excretion. The authors draw no conclusions from these results.

F. R. B. Atkinson.

Two cases of a chronic wasting disease in two brothers, diagnosed as (probably) cases of a form of myopathy akin to pseudo-hypertrophic muscular atrophy (*'Austral. Med. Gaz.,'* 1912, XXXII, *p.* 140).—**H. M. Lightoller** describes the cases of two brothers, aged 15 and 13 years respectively, in both of whom at the age of eight the legs gradually wasted and the hamstring muscles began to tighten so that walking was impossible. In the elder boy the arms also gradually wasted and he was unable to feed himself. F. R. B. Atkinson.

Congenital hemispasm of the face (Variot) (*'Arch. de méd. des enf.,'* 1913, XVI, *p.* 292).—**Lesage** and **Gauchery** describe a case in an infant aged 9 months, noticed when the child cried or laughed. More or less marked atrophy of the articular muscle and numerical atrophy of the muscular fibres have been noticed by Variot in the region of the spasm together with bundles of giant-cells in the connective tissue. The condition is familial and hereditary, and gets less in time without disappearing altogether. In the present case when the child breathed the right side of the thorax was fixed. R. D. was not present. F. R. B. Atkinson.

Essential tremor in malaria (*'Gazz. internaz. di med. chir., etc.,'* 1913, *p.* 443).—**S. de Villa** records a case in a male infant, aged 15 months, who five days after an attack of malaria developed an intense oscillatory tremor of the head, trunk and limbs. The movement continued during sleep. The cerebro-spinal fluid was normal, and Wassermann's reaction both in the blood and cerebro-spinal fluid was negative. Recovery took place under quinine. J. D. Rolleston.

Chorea (*'New York Med. Journ.,'* 1912, II, *p.* 325).—**F. C. Eastman** emphasises the association of hysteria with chorea in some cases. He regards

the seasonal incidence of chorea, with a maximum in the spring months, as in line with a similar maximum incidence of suicide and insanity. He relates a case of chorea showing visual hallucinations of animals, insects, etc., simulating the hallucinations of delirium tremens. As soon as they passed off the child recognised their unreality, but was again frightened on their reappearance. REGINALD MILLER.

Hysterical rhythmic chorea of children (*'Allg. Wien. med. Zeit.,'* 1912, LVII, *pp.* 163, 175, 185, 197).— **A. M. Popoff** summarises the present position of hysteria in children; its proper recognition we owe to Charcot. The most constant symptoms are alterations in sensation and in the sense-organs; the commonest motor manifestations are paralyses, pareses, contractures and convulsions. Not uncommon are also convulsions or automatic movements. These were the prominent symptoms in a boy, aged 11 years, who was plagued by involuntary rhythmical vibratory movements of the head accompanied by similar movements of the left arm and leg. The symptoms had been present for some nine months, commencing as slight jerks in the fingers of the left hand lasting on and off for three days. Then the movements extended to the arm and left leg. For a time they appeared in the right limbs, but returned finally to the left side, and a little later the head commenced to shake. Hemi-hyperæsthesia of the right side and Romberg's side were present. Visual acuity and the visual field practically normal on the right side; on the left almost complete concentric narrowing of the visual field, especially to the inner side; occasionally coloured specks and mistiness. No dyschromatopsia. Diminished hearing on the left side; sometimes noises were heard in the ear. Smell more acute at times. No change in taste. At the slightest stimulus the patient perspired most freely; the legs were always cold. The spinal column was very sensitive. The intellectual functions were normal, but there were some slight affective changes. Treated by warm baths and faradism the patient recovered in a few weeks. A few days after leaving the hospital he had hallucinations and convulsive movements of the right hand, then of the head, and he was again sent into hospital. Under suggestion without other treatment the symptoms disappeared in fourteen days. Popoff regards the prognosis as favourable. M. D. EDER.

Paraplegia, probably hysterical in origin (*'New York Med. Journ.,'* 1912, I, *p.* 1205).—**S. Parker** narrates the case of a boy, aged 12 years, suffering from symptoms very similar to Landry's paralysis occurring after a severe toothache. The offending tooth was removed and all the symptoms vanished. F. R. B. ATKINSON.

Institutional treatment of hysteria in children (*'Jahrb. f. Kinderheilk.,'* 1912, LXXVI, *p.* 283).—**F. von Reusz** recommends this form of treatment, laying down the following principles: (1) Complete rest from all exciting influences. (2) Removal from the surroundings to obtain an absolute cure, and to prevent the disease from becoming serious. (3) Absolute suppression of the patient's self-importance and exaggeration of his personality by strong discipline. (4) Physical and medical treatment where necessary. F. R. B. ATKINSON.

Masturbation before school age (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift, p.* 497).—**E. Neter** has observed twenty-six cases, eighteen in girls and eight in boys, in all of whom the habit could be traced back to the first

year or eighteen months of life. Generally speaking they were healthy, children, and the practice had either not been observed or else misinterpreted by their parents. No local or general cause could be found, and in none was it possible to trace any connection between precocious masturbation and a neuropathic constitution. A pathological condition of the nervous system, such as convulsions, tetany, epilepsy, or enuresis, was not more frequent in these than in other children. No appreciable bad effects could be attributed to the practice in any case, though its influence upon the future sexual life of the individual was an important question. In the treatment Neter recommends constant supervision and mechanical suppression of the act. The removal of so-called ætiological factors such as phimosis or worms was a matter of course, but was unimportant. More attention should be paid to the possible presence of urticaria or of constipation. A review of the literature is appended (*cf.* British Journal of Children's Diseases, 1912, ix, *p.* 381). J. D. Rolleston.

The relation of prolonged pregnancies to some cerebral lesions and to backward mental states ('*Am. Journ. Obst.*,' 1912, lxvi, *p.* 1059). —**H. L. Winter** states that 5 per cent. of all pregnancies are prolonged beyond the normal limit. Of 785 mentally deficient children, 75, or over 9 per cent., are known to have been born after prolonged pregnancies, the periods of gestation being 289 to 290 days in 6, 290 to 300 in 22, 300 to 310 in 39, and over 310 in 8. As would be expected the weight of such children was excessive: in 4, 8–10 lb.; in 13, 10–12 lb.; in 6, 12–14 lb.; in 3, 14–15 lb.; and 16 lb. in one case. Post mortem, two of the brains presented no gross lesions, 10 showed one or more areas of cystic degeneration, and 5 unequal development of the cerebral hemispheres, the skull being asymmetrical and flattened over the undeveloped area. The degree of mental deficiency varied directly as the amount of injured brain substance. Injury occurs owing to increased pressure *in utero* and during parturition. Podalic version should be preferred to delivery by forceps. Christopher Rolleston.

Mental deficiency ('*Arch. of Ped.*,' 1912, xxix, *p.* 596).—**Mark Reuben** states that in the United States 1 in every 150 of the population is either idiotic, insane or epileptic. The normal population has increased 3½ times, the aments 15 times in the last 50 years: 66 per cent. are of native, 22 per cent. of foreign, and 15 per cent. of mixed parentage; males predominate over females. The importance of heredity is emphasised by the fact that of 2013 children born to families where mental deficiency existed, 434 were aments and 160 criminals or paupers. Epilepsy occurring in infancy causes mental defects in 55 per cent. of the children. Two thirds of all infants with birth palsies devolop epilepsy, and two thirds of these become mentally deficient. Two thirds of all idiots are of scrofulous diathesis and die of tuberculosis. With reference to syphilis it is mentioned that in 1269 families there were 245 aments and as many as 170 stillbirths. The high percentage of diplegias giving a positive Wassermann is noted. The brains of idiots are lighter, often asymmetrical, with diminished number and simplification of the convolutions. Microscopically, the most common change is sclerosis. Idiotic babies even of a year old do not follow a light or recognise their parents. The palate is normal in half, narrow and high in the great number of those deformed. Among Mongols most commonly the vomer may project into the naso-pharynx and cause obstruction. Retino-choroiditis, vitreous opacities, old inflammation of the iris point to a luetic origin. Cohn found

pallor of temporal and œdema of nasal half of the disc in 7 out of 29, and a normal fundus in only 2 out of 53. In 8 of these generalised pallor of the disc was noted. Ambidexterity is more common than in normal children. Idiots have difficulty in suckling and perform constantly repeated movements, most commonly finger-sucking and pelvic rocking (habit-movements of Attwood Clarke), which appear to give them pleasure, and are probably a substitute for masturbation. In regard to diagnosis much stress is laid on family history and the time of acquisition of speech and walking. Prognostically, considerable improvement may be hoped for in microcephalics; the outlook in syphilitic idiocy is bad owing to the development of general paralysis, and epileptic idiocy is one of the most hopeless varieties.

CHRISTOPHER ROLLESTON.

The mental defective and society (*'Arch. of Ped.,'* 1913, XXX, *p.* 203). —**W. L. Stowell** describes his eighteen years' experience as physician to a feeble-mind institution containing 1186 aments on Randall's Island. Stress is laid upon the importance of music and the feasibility of teaching aments to be bandsmen. According to the author's figures six is the average number of the family in which aments are found, a marked contrast to the three of the normal American household. Among 2000 prostitutes 29·2 per cent. were of subnormal intelligence, showing that feeble-mindedness is two hundred times more common among this class than among women of other occupations. As regards prognosis, the figures by Caldecot of Earlswood are given which apply to 341 persons discharged from that institution during the last fifteen years. 3·25 per cent. were earning wages, 3·81 were at home and very useful, another 7·5 per cent. were at home and of some use, while the remaining 85·5 per cent. were of no use and should have been retained in the asylum. The average age at death of 500 inhabitants of Randall's Island was only thirteen years. Hence normal persons live three and a half times as long as aments. Thirty per cent. of these 500 aments died from pneumonia, and 23 per cent. from inanition.

CHRISTOPHER ROLLESTON.

Imbecility and idiocy (*'Deutsche Ærzte-Zeitung,'* 1912, *No.* 13, *p.* 193). —**Becker** regards the pessimistic views held about the treatment of imbeciles and idiots as quite unwarranted. He agrees with Ziehen that there is no case of congenital feeble-mindedness which cannot be improved by proper educational and medical methods. The thyroid gland has shown what can be done in some cases; syphilis and rickets are other root causes which must be energetically dealt with. Perhaps every imbecile should receive anti-syphilitic treatment. Moral insanity, always regarded as so unfavourable, has been shown to be curable. Pachantonis recently published five cases, three of which were cured and two improved. In imbecility improvement takes place in the decennium following puberty.

M. D. EDER.

Ophthalmology.

A study of ophthalmia in the newborn (*'Amer. Journ. Obst.,'* 1912, LXVI, *p.* 866).—**A. W. Tallant** presents a study of thirty-one cases of ophthalmia neonatorum. The author accepts the usual classification, namely, (*a*) ante-partum or intra-uterine—cases developing before birth; (*b*) primary—the infection received at birth, the disease developing from the first to the fifth day inclusive; (*c*) secondary—the disease appears after

the fifth day, and is, therefore, not a birth infection, but has been acquired later from the mother or from another source. The gonococcus was the causative organism in the majority of cases. The severity of the disease in the mother did not bear any direct relation to the virulence of the infection in the infant. In the majority of the cases the temperature was normal throughout, and in four in which there was a marked rise of temperature there were other causes to account for this. The infants were all of average development. From the study of the general condition of the child it was concluded that it was not necessary to separate the child from the mother, even if she be diseased, since her milk is not affected and the babies do much better if breast-fed. Treatment was carried out on the usual lines.

J. Allan.

The incidence of ophthalmia neonatorum in London (*'Brit. Med. Journ.,'* 1913, I, *p.* 1099).—**N. Bishop Harman** comments on the first official statement recently issued on the incidence of purulent conjunctivitis in the newborn in London. The incidence was 0·843 per cent., and corresponds to the figure (0·867 per cent.) obtained by the author in a private census undertaken by him in 1906. He thinks it would be advisable to make compulsory the use of prophylactic measures, and he emphasises the importance of the necessity of curing the mother. The report shows that in 40 per cent. of the mothers whose babies contracted the disease there was a history of vaginal discharge.

J. Allan.

Prophylaxis of blenorrhœa neonatorum (*'St. Petersburg. med. Zeitschr.,'* 1913, XXXVIII, *p.* 134).—**Weidenbaum** recommends tablets of 0·1 grm. arg. nitr. with 0·1 grm. potassium nitrate. For a 1 per cent. solution the tablet is dissolved in 10 c.c. of boiled water. This freshly prepared solution of the required quantity is far better than the usual solutions, which frequently precipitate silver salts and give rise to inflammatory conditions. It is especially advisable for the use of midwives and nurses.

M. D. Eder.

Case of congenital cataract (*'Cleveland Med. Journ.,'* 1913, XII, *p.* 147).—**W. C. Tuckerman** presented a boy, aged 8 years, with bilateral congenital cataract. Family history negative and no history of syphilis. Shortly after the birth of the child the parents noticed that the left eye squinted. The right eye began to show change. Two years ago the vision of the right eye for distance was $\frac{20}{120}$, of the left $\frac{20}{200}$; for near vision that of each eye was $\frac{1}{10}$. Vision is now about the same and visual acuity of both eyes is about the same. The cataract of the left eye appears to be posterior conical, of the right zonular. In the author's opinion operation was the only procedure which offered hope for improvement.

J. Allan.

Burn of eyeball due to caustic contents of golf-ball (*'Journ. Amer. Med. Assoc.,'* 1913, LX, *p.* 1297).—**L. W. Crigler** reports the case of a boy, aged 10 years, who, while dissecting a golf-ball, ruptured the small rubber bag in the centre of the ball, the contents spurting into his right eye. This caused immediate excruciating pain, lachrymation, photophobia, redness and œdema of the conjunctiva. The surface of the cornea became opaque and the eye presented the picture of a typical caustic burn. Eventually the cornea became slightly more transparent and the vision slightly improved, though the sight remained much impaired. An analysis of the paste in the

centre of a golf-ball similar to that causing the accident showed that it consisted of a mixture of barium sulphate, soap and a free alkali (sodium hydroxide 2·4 per cent.). T. R. Whipham.

Chancre of the palpebral conjunctiva (*'Thèses de Paris,'* 1912–13, *No.* 433).—**M. Koupliansky** has collected 53 cases from literature, including 7 in children aged from eight months to fifteen years. Ocular and palpebral lesions are predisposing causes, especially those characterised by erosions and excoriations like pruriginous blepharitis. Contamination usually occurs by the use of infected towels, kissing, or extraction of a foreign body from the eye by the tongue of an infected person (*cf.* British Journal of Children's Diseases, 1912, ix, *p.* 136). J. D. Rolleston.

Blue sclerotics and brittle bones (*'Klin. Monatsbl. f. Augenheilk.,'* 1913, li, *p.* 594).—**A. Peters,** who had previously recorded the occurrence of blue sclerotics in four generations, in answer to an inquiry by Conlon investigated the question of multiple fractures in his cases, and found to his surprise that three members of the family, the father and his two sons, had brittle bones. Peters lays stress on the practical importance of the connection of blue sclerotics with brittle bones, and thinks that surgeons and ophthalmologists should adopt prophylactic treatment by forbidding gymnastic exercise and military service in cases of blue sclerotics. J. D. Rolleston.

Five generations of blue sclerotics and associated osteoporosis (*'Boston Med. and Surg. Journ.,'* 1913, ii, *p.* 16).—**F. A. Conlon.**—Of twenty-seven individuals in these five generations eighteen had blue sclerotics and five of the latter brittle bones (*cf.* British Journal of Children's Diseases, 1911, viii, *p.* 202, and 1912, ix, *p.* 376).

J. D. Rolleston.

A case of enlargement of the eyeball (*'Ophthal. Rev.,'* 1913, xxxii, *p.* 137).—**R. Beatson Hird.**—A boy, aged 11 years, came under observation in May, 1912, because he could not see the blackboard at school and because one eye was larger than the other. The latter condition had been noticed since birth and did not appear to have got any worse. The left palpebral fissure was a little larger than the right, and this in spite of the fact that if anything there was slight enophthalmos. The corneal diameters were as follows: right vertical, 11 mm.; horizontal, 11 mm.; left vertical, 13 mm.; horizontal, 14 mm. The pupil reactions were normal, but the left was larger (4 mm. diameter) than the right (3 mm. diameter). There was no tremulousness of the iris of the left eye. The left anterior chamber was distinctly deeper than the right. Intra-ocular tension was quite normal in both eyes. There was no evidence of stretching or thinning of the sclerotic coat of the left eye. Fundi were normal. The child was myopic and suitable lenses were ordered. The boy was seen in February of this year and the glasses required slight alteration, but in other respects there had been no change. The author thinks this is a case of simple hypertrophy of the globe.

J. Allan.

Elephantiasis phlebectatica (*'Ophthal. Rev.,'* 1913, xxxii, *p.* 192). —**Wützold** reports the case of a boy, aged 14 years, who in his eighth year suffered from extremely severe swelling of the right ear. Soon thereafter he complained of swelling of the eyelids, this gradually increasing in the course of a year till the doughy mass involved all the tissues above nose and

lips. Round the eyes the tissue is now hard and cicatricial. There was no history either of ulcers or of lupus. The bony margins of the orbit are thickened and made coarser from involvement of the periosteum; the orbicularis oris is much infiltrated, and at the angles of the mouth are hard nodules the size of a cherry; the veins of the whole face are greatly distended. The origin of the condition is quite uncertain. J. Allan.

Malignant growth of the orbit (*'Cleveland Med. Journ.,'* 1913, xii, *p.* 146).—**S. S. Quittner** reported a case of malignant disease of the orbit in a boy, aged 7 years. Four and a half months previously a burning match came in contact with the left upper lid. Shortly afterwards a small tumour mass appeared in the same lid. This was removed, but it recurred and was again removed. It had since returned again and had grown very rapidly, forming a large tumour mass, probably sarcoma, which was considered inoperable. From the X-ray plates it was impossible to say whether the tumour originated from the bone or from the contents of the orbit. Vision of the right eye has remained normal, but recently this eye has began to show some photophobia. Loss of weight and pyrexia are other recent symptoms.

J. Allan.

The diagnosis of optic neuritis by the ophthalmoscope (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift*, 1913, *p.* 511).—**R. Paderstein** describes the following appearances met with in children: (1) The boundaries of the optic sheath become adherent if œdema of the tissue, optic nerves and retina occurs. (2) The optic sheath is redder than normal. (3) The papilla becomes enlarged, round or oval. (4) The papilla becomes prominent. This is an important point. (5) The veins become full, tortuous, and broader than normal. F. R. B. Atkinson.

Optic atrophy of alcoholic origin in a child (*'Gaz. Internaz. di med. chir., etc.,'* 1913, p. 415).—**S. de Villa** records a case in a girl, aged 4 years. Both parents were heavy drinkers, and the child had been given large quantities of wine from the age of two months. Ophthalmoscopy showed incipient atrophy of both optic nerves and stasis of the papilla on the right. All other causes of optic atrophy could be excluded. There were no other nervous symptoms beyond some tremor of the upper limbs. Wassermann and von Pirquet negative. Considerable improvement followed enforced abstention from alcohol and a well-regulated diet.

J. D. Rolleston.

An interesting case of retinal disease (*'Ophthal. Rev.,'* 1913, xxxii, *p.* 188).—**L. Werner** reports an unusual case of obstruction of retinal circulation in both eyes in a boy, aged 11 years. The left eye became suddenly blind while he was at his lessons, and three days afterwards the sight of the right eye went in a similar way. The ophthalmoscopic signs were those of blocking of the central artery, with breaking up of the blood column in the vessels. In the second stage the left optic disc became swollen to such a degree as to resemble a choked disc, and in both eyes white stars of exudation developed at the macula. Perception of light was absent in the right eye for twelve days and in the left for four; nevertheless vision improved to $\frac{6}{36}$ in the former and to $\frac{6}{24}$ in the latter.

J. Allan.

Crater-like hole in the disc associated with changes at the macula (*'Ophthal. Review,'* 1913, xxxii, *p.* 38).—**R. R. James.**—The patient, a boy, aged 6 years, came under observation because of squint, and during the ordinary routine examination the changes in the fundus were seen. The disc was paler than usual, but not enlarged. Just below the horizontal meridian of the disc on the temporal side was seen a hole which reached at one spot up to the pigmented edge, and had steep upper, lower and outer edges, while the inner edge was more sloping. As regards the macula, the central part was of a dull yellow colour, while there was a massing of fine pigment round the edge. Reference is made to the literature on this subject.

J. Allan.

An analysis of three hundred cases of high myopia in children, with a scheme for the grading of fundus changes in myopia (*'Ophthal. Rev.,'* 1913, xxxii, *p.* 186).—**N. Bishop Harman** collected these cases during educational work in London. Girls were more frequently affected than boys, there being a difference of 6 per cent. The degree of myopia ranged from 4 to 25 D.; the bulk, 64 per cent., were from 6 to 12 D. The extreme degrees were nearly all in girls. Hereditary influence was marked in 9 per cent. Astigmatism, which the author considers a most likely exciting or adjuvant cause of myopia, was present in 64 per cent.—a far higher proportion than in other defects. Previous keratitis was found in 11 per cent. Congenital defects such as albinism, coloboma uveæ, dislocated lenses, aniridia, existed in 5 per cent., squint in 4 per cent., nystagmus, mostly associated with bad vision, in 7 per cent. The lens had been removed by operation in 3 per cent., but the improvement of vision was not great. Dealing with fundus conditions the author criticised adversely their present nomenclature for changes about the disc; he proposed that the fundus should be spoken of as first, second or third degrees according as the atrophy at the disc was as wide as half the disc diameter, the whole diameter, or greater than that. To this would be added other details about the macula, etc. He maintained some definite notation was necessary when these cases came under observation for a definite object such as the regulation of education.

J. Allan.

Functional treatment subsequent to operation in cases of strabismus (*'Ophthal. Rev.,'* 1913, xxxii, *p.* 192).—**C. Adam** makes a strong appeal for exercises in vision and in fusion supplementary to mere operation in the treatment of strabismus.

J. Allan.

Report on the possible effect of needlework on the eyes of young children, shown by a comparison of errors of refraction in "entrants" at age 5 and "leavers" at age 12 of both sexes (*'School Hygiene,'* 1913, iv, *p.* 35).—**A. A. Parson** finds that the children at age 5 apparently start school with the boys and girls having much the same number of defects, the advantage being with the girls. But at the age 12 there is a marked difference, the girls having much higher defects than the boys, the increase being in defects of myopia, myopic astigmatism and mixed astigmatism. These children are all under the same home conditions, and the same conditions at school of lighting, ventilation, etc., with the exception of needlework. The author thinks that sewing should not be done in the infant rooms, and might well be postponed until the child reaches a later age, such as eight.

J. Allan.

Reviews.

Epidemic Infantile Paralysis—Heine-Medin Disease. By Professor Paul Römer. Translated by H. Ridley Prentice. London: John Bale, Sons and Danielsson, 1913. Price 7s. 6d. net.

Several excellent monographs on poliomyelitis have appeared during the past few years. None are so complete and so well arranged as that by Römer. He deals with the history of the disease, the symptomatology in man, with the experimental work on monkeys and other animals; with the pathology, the epidemiology and the prophylaxis.

For those who are not sufficiently well versed in the German language, a translation of the excellent monograph is desirable, and the present is in every respect admirable. It is easy to read, the sentences are well formed, and are not a simple word-for-word translation of the German, which often makes such unpleasant reading.

Not only has the translator taken the trouble to give readable English, but he has also brought the book up to date by adding certain new work which has appeared since 1911, when Römer's monograph was published.

As an instance of this may be quoted the experiment of H. K. Marks on rabbits, who has shown that rabbits may transmit poliomyelitis, although they do not manifest the clinical features nor show the pathological changes of the disease which are regarded as characteristic in monkey and man. He has also brought the epidemiology up to date, for he has added an account of the English epidemics of 1910 and 1911 which do not appear in the original. The translator has not been able to insert the work of Kling Wernstedt and Pettersson, although he mentions their monograph on the subject.

Possibly it is as well that he has not dealt with this, for its insertion would mean a considerable alteration in the text of the work, which is not the function of the translator.

It is difficult to speak sufficiently highly of the manner in which Dr. Prentice has executed the work, not only of a translator, but also of reviser so far as that is essential. F. E. B.

Lectures on Diseases of Children. By Robert Hutchison, M.D., F.R.C P. Third edition. Pp. 404, with 69 illustrations and 13 diagrams. London: Edward Arnold, 1913. Price 10s. 6d. net.

Dr. Hutchison's book is deservedly popular, and a third edition has now been called for. The new issue has been revised, and contains additional lectures on cœliac disease, which the author describes as a clinical entity, hysteria in childhood, and some common affections of the genito-urinary system. A fresh lecture on disorders of the heart is concerned mainly with congenital anomalies, and two new lectures on pneumonia greatly increase the value of that portion of the book which deals with respiratory diseases in childhood. Several new illustrations are also included.

The author's teaching is sound and practical throughout, and is mainly the outcome of his own experience, which gives it especial value. The new lectures fully maintain the high standard of the original ones, and the book should continue to prove of great use to students and also to practitioners who wish to revise easily their knowledge of children's diseases. A detailed description of the book is almost unnecessary; for those who know it not it

is sufficient to say that it consists of a series of lectures on various diseases of childhood (it does not profess to comprise the whole subject), written in a colloquial style which renders it easy reading. It is, however, a pity that the author's colloquialism should lead him to use such an expression as "the left heart." This term is becoming unfortunately all too common among medical men; it is not accurate, and does not sound well coming from the lips or pen of a master in medicine.

The book is well got-up, and the reproductions of photographs are in every way excellent. T. R. W.

La Pratique des Maladies des Enfants. Vol. VIII: Chirurgie du Crâne, du Rachis, du Thorax, du Bassin, et des Membres, Orthopédie. Par MM. Denucé et Nové-Josserand. Paris: J. B. Baillière et Fils, 1913. Pp. 574, with 287 illustrations. Price 14 fr., paper cover; 15 fr. 50 c., bound.

The eighth fasciculus of this large work upon the diseases of children is fully up to the standard that would be expected from two such well-known surgeons as Denucé and Nové-Josserand. If we miss certain items of information and certain discussions that we should expect to find in an English text-book, this is amply compensated for by the inclusion of much in the shape of French methods that are unfamiliar in this country. The first part of the volume, by Nové-Josserand, includes a valuable account of fractures as they occur in children, with special reference to the position of the epiphyseal lines, and to the part they play in such accidents. The author, it will be noted, prefers fixation to early movement, and devotes considerable space to a description of methods of reduction and of fixation in plaster. In the description of some of the more rare deformities a good deal in the way of recent observations and theories is omitted. For example, the relation of the so-called congenital dislocation of the shoulder to birth palsy is passed over, as also the presence of defects of the ribs and spine in congenital elevation of the scapula, and the epiphyseal origin of Madelung's deformity is not mentioned. Under hip disease and tuberculous disease in general conservative treatment is advocated, considerable attention being paid to plaster technique. The description of the occurrence of early dislocation in hip disease—a point which seems to have escaped attention in this country—is important. One of the best parts of M. Nové-Josserand's section is that devoted to congenital dislocation of the hip. The stages in the formation of a stable joint after reduction of the dislocation are carefully described, and though the study of these is of course at present incomplete, a knowledge of them must ultimately form the basis for fixing the duration of after-treatment. The author prefers the fixation of the hip from the first in the position of internal rotation—an awkward position, but one which is undoubtedly successful in keeping the head of the femur in the joint.

The second part of the volume, by M. Denucé, is specially notable for the most careful descriptions of the pathology of the conditions included, commencing with a thorough consideration of spina bifida, cephalocele, and sacro-coccygeal tumour. The treatment of Pott's disease is upon the usual conservative lines, the use of the plaster bed and of fixed plaster-of-Paris jackets being advocated. Scoliosis fills a considerable section of this part of the volume, and, as is usual in French works, much attention is paid to the statical causes of the deformity. Treatment by exercises in which selections are made from all systems—Swedish, German, Klapp's creeping exercises,

etc.—are described at length, but very little attention is paid to other methods. R. C. E.

How to diagnose Smallpox: A Guide for General Practitioners, Post-Graduate Students and Others. By W. McC. Wanklyn, B.A., M.R.C.S., L.R.C.P., D.P.H., Assistant Medical Officer of the London County Council, and formerly Medical Superintendent of the River Ambulance Service (Smallpox) of the Metropolitan Asylums Board. With illustrations. London: Smith, Elder & Co., 1913. Price 3s. 6d. net.

The yearly increase in the number of exemptions from vaccination granted to conscientious objectors, the long immunity of London and the provinces from an epidemic, and the lack of familiarity among the profession with this disease, all render the appearance of this book remarkably opportune.

The writer is well qualified for his task, as his experience of smallpox extends over twenty years and includes the London epidemic of 1901-2, in which he had to revise the diagnosis of some 10,000 cases.

The opening chapters show how almost every outbreak in London in recent years has been started or propagated and prolonged by unrecognised cases.

In the third chapter practical points in the method of examination are described, and the importance of obtaining a view of the whole surface of the body and the necessity of a good light are emphasised. Unless these conditions can be obtained, an opinion should be withheld.

Like Ricketts the writer attaches the greatest importance to the distribution of the eruption, and draws special attention to the presence of irritation in determining the incidence of the rash.

He regards as of much less value the traditional hall-marks of smallpox, viz. umbilication, shottiness and multiloculation of the pocks. Umbilication, he shows, is only transitory, and in the worst and most infectious cases may be absent; shottiness may be present in acne, chickenpox in adults, and mosquito bites, and be absent in the malignant cases in which the skin shows no reaction; and unilocular lesions may be present in smallpox.

That reliance in the history is one of the commonest sources of error is strikingly illustrated by cases of chickenpox in adults, in whom the onset is apt to be severe.

An instructive list is given on p. 62 of 607 cases wrongly certified as smallpox during 1902. Chickenpox, measles, acne and syphilis were the diseases in which mistakes were most frequently made, but lumbago, rheumatism and appendicitis also figure in the list as well as a group of diseases which did not appear to have the remotest resemblance to smallpox, such as pulmonary tuberculosis, bronchitis, acute mania, cerebral tumour and mastitis.

An important chapter, illustrated by diagrams, is devoted to initial rashes, which are classified into two groups, the one "petechial, persistent, and sinister," and the other "erythematous, fugitive, and benign." In Chapter X attention is drawn to the close resemblance between measles and smallpox in the early stage, but, curiously enough, nothing is said of the diagnostic value of the catarrhal signs and of Koplik's spots, which we have often found of the greatest service in the diagnosis of cases of measles wrongly certified as smallpox.

This is the only important omission which we have detected, though we think that something might have been said on the resemblance of smallpox to

syphilis, so many cases of which, as already stated, were erroneously certified in the last London epidemic.

With these reservations we can heartily recommend the book. Dr. Wanklyn possesses the gift of exposition, and writes with the authority, at times iconoclastic, that his long experience justifies. J. D. R.

Puériculture et Pouponnières. Par Le Dr. R. Raimondi, Médecin en chef de la Pouponnière, Directeur des services de l'Institut de puériculture de Porchefontaine, Inspecteur des Écoles de la Ville de Paris. Paris: Librairie J. B. Baillière et Fils, 1913. Price 1 fr. 50.

In this interesting and practical little brochure the author discusses the question of puericulture, or child-rearing. During infancy and early childhood the children are fostered in a special building under medical supervision. The account given of the medical organisation indicates that such supervision is very complete. Very stringent precautions are taken to guard against the introduction of contagious diseases; only healthy babies are received, and those in charge must also present a clean bill of health. We note that the author recommends the introduction of camphorated vaseline into the nose as a prophylactic in catarrhal affections of influenza. No doubt this procedure is perfectly safe when carried out under medical supervision; but it should be pointed out that in unskilled hands it may be followed by most alarming symptoms. The Institute of Puericulture serves as a sort of training school; and the courses of instruction for junior and senior pupils are given. The question of animal milk for infants is discussed; and the relative value of goat's milk, ass's milk and cow's milk is examined. There is a very good description of the development and progress of a model dairy farm attached to the Institute. In the concluding chapter the author deals at some length with the methods adopted at the Institute for the hygienic rearing of children. The little volume is well worth reading, and can be commended to all interested in this subject.

J. A.

Maladies des Capsules surrénales. By Emile Sergent. (Extrait du 'Traité de Thérapeutique pratique publié sous la direction de Albert Robin.') Paris: Vigot Frères. Pp. 19.

This reprint of an article on the therapeutic uses of suprarenal products gives an interesting summary of our knowledge on the subject. After a short introduction on the general pathology and treatment of the morbid conditions of the adrenals, the symptoms of Addison's disease and of adrenal insufficiency are tabulated, and here the author takes up the attractive but somewhat debatable view that the pigmentation is due to mechanical irritation of the sympathetic nerves by the suprarenals, and that it is not the result of insufficiency. The methods of treatment are fully described, and then the various diseases on which suprarenal products have been employed are mentioned. Under the latter heading reference is made to Bernard's case of osteomalacia in which improvement began after the thirtieth injection of a cubic centimetre of a 1 in 1000 solution of adrenalin; this case certainly shows that this treatment takes time, for the injections were given three times a week for three weeks out of four, and the patient received 103 injections. Bernard has collected no less than twenty cases of osteomalacia which have been cured or improved by this kind of treatment. The article proves a useful source of reference on suprarenal medication.

H. D. R.

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Original Articles.

THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

By D. B. LEES, M.D., F.R.C.P.,

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THE diagnosis of pulmonary tuberculosis is more difficult in children than in adults. Usually no sputum can be obtained for bacteriological examination. A cutaneous reaction to tuberculin may give positive evidence of the existence of a tuberculous infection, but it does not inform us what organs are infected. X-ray examination of the lungs in children is subject to special difficulties, requires the highest expert method and interpretation, and is often entirely unavailable. The diagnosis is therefore dependent upon an accurate physical examination by percussion and auscultation.

In adults the existence of an incipient pulmonary tuberculosis can be easily demonstrated by careful percussion (provided that during the examination of the front of the chest the patient is *in the recumbent position* with relaxed muscles) long before any bacteriological evidence is obtainable, and while the auscultatory evidence

* Abstract of a paper read before the Section of Diseases of Children of the Seventeenth International Congress of Medicine on August the 7th, 1913.

is insufficient for a diagnosis.* In the upper lobe of each lung a focus of incipient pulmonary tuberculosis can be detected by careful percussion in the inner part of the first and second intercostal spaces in front, and in the inner part of the supra-scapular space ; a second focus in the outer part of the first and second intercostal spaces in front, and in the outer part of the supra-scapular space. A third focus can be detected in the upper part of the lower lobe on each side by careful percussion at the posterior end of the scapular spine.

These six dull areas are present in all cases of early pulmonary tuberculosis. I believe that they are not produced by any other morbid condition, and that they are sufficient for the diagnosis of a (past or present) tuberculous infection. Whether that infection is active or quiescent must be determined by the symptoms and auscultatory signs. In addition to the six apical areas, many other small dull areas can be found in the lungs in cases of early pulmonary tuberculosis. The position of these areas is practically invariable ; they are nearly symmetrical in the two lungs, but show certain differences, which evidently result from the existence of three lobes in the right lung and of only two in the left. Their position is indicated in the diagram prepared to illustrate my Bradshaw Lecture.

In children percussion is less easy than in the adult, and difficulty is caused by the greater frequency of broncho-pneumonia, by lobular collapse, and by the ready passage of a tuberculous infection from the lungs of children into the pulmonary, bronchial and tracheal glands, in which it may show extreme virulence and spread back into the lungs by contiguity or by rupture of a gland into a bronchus.

Yet in spite of these difficulties the six typical dull apical areas of pulmonary tuberculosis can be detected in tuberculous children, and they are of great assistance in the diagnosis. A careful clinical examination of the thorax in children who are suffering from what is thought to be a simple catarrh or an ordinary bronchitis very frequently reveals the typical distribution of small dull areas at the apices and other parts of the lungs, exactly as found in tuberculous adults, and as shown in the diagram. It is a clinical confirmation of the results obtained by the cutaneous reaction to tuberculin, which demonstrates the existence of a tuberculous infection in many cases in which the fact is not otherwise obvious. It explains the greater

* The proof of this statement is given in my Bradshaw Lecture delivered before the Royal College of Physicians, November the 5th, 1912, and now published. ('The Diagnosis and Treatment of Incipient Pulmonary Tuberculosis.' Lewis : Pp. 116. Price 5s.)

frequency of infection of the thoracic glands as compared with the mesenteric, and confirms the fact, clearly proved by post-mortem examination, that fatal tuberculosis in children originates far more frequently in the lungs than in the intestines.

The existence of mixed infections (more common in children than in adults) makes the diagnosis by percussion more difficult, especially as regards the lower half of the lung, but I believe that the discovery of the six typical dull areas at the four apices is sufficient ground for asserting, either that the fresh infection by pneumococci, streptococci, or the microbes of diphtheria, of measles, or of whooping-cough is accompanied by a tuberculous infection, or that the fresh infection has attacked a child who is already tuberculous.

It appears to me, therefore, that careful and accurate percussion is of primary importance in the diagnosis of early pulmonary tuberculosis, both in the child and in the adult, and that it is capable of detecting the disease at a much earlier period than is possible by any other method of investigation. It is a method which does not require any expensive or complicated apparatus, which is independent of the laboratory and its products, and which calls only for care and accuracy on the part of the doctor. When the general practitioner of medicine realises what is possible for him in diagnosis by careful percussion and auscultation, and determines his treatment in accordance with the knowledge which he may thus easily acquire, the final extinction of the disease known as pulmonary phthisis will have become a possibility.

THE MENINGEAL FORM OF POLIOMYELITIS.*

By Arnold Netter,

Membre de l'Académie de Médecine, Médecin de l'Hôpital Trousseau, Paris.

The epidemic of poliomyelitis, which has existed in France for the last four years, has enabled us to observe the frequency of the meningeal forms of this disease. Wickman gave the name of "meningeal forms" to cases in which the initial symptoms closely resembled those of cerebro-spinal meningitis, simple meningitis, or even tuberculous meningitis—viz. violent onset with a high temperature lasting for several days, vomiting, headache, pains in the back and limbs, rigidity of trunk and neck, and Kernig's sign. In addi-

* Abstract of a paper read at the Section of Diseases of Children of the Seventeenth International Congress of Medicine on August the 12th, 1913.

tion there were fairly often present convulsions, tremors, vaso-motor troubles (meningeal streak), and even irregularity of the pulse and respiration, strabismus, retention of urine, etc. After several days paralysis usually appeared, and might be transitory and ill-marked, but was more frequently persistent, and was more or less rapidly followed by muscular atrophy and deformity.

In some cases, as Medin showed, there was not even rudimentary paralysis. The clinical picture remained that of a meningitis exclusively, whether recovery or death took place. We know of epidemics in which only meningeal forms have been observed, and which have naturally given rise to discussion.

Meningeal symptoms in poliomyelitis should not cause surprise, as the pathological anatomy of cases fatal at an early stage has always shown the pia mater and its prolongations infiltrated with cells, and as lumbar puncture performed shortly after the onset gives issue to an albuminous and fibrinous fluid rich in cellular elements. This meningeal reaction may sometimes occur when poliomyelitis is fully developed. Such cases are relatively rare, and their clinical importance is not so great.

A knowledge of poliomyelitis with meningeal onset is very important. In numerous cases a diagnosis of cerebro-spinal meningitis has been made, and entailed intra-spinal injections of anti-meningococcic serum, which have appeared to cut short the disease. We have ourselves committed this error in six cases, and we know of a number of cases in which other physicians have done the same. The error did not do the patients any harm. It is, however, important to make a diagnosis as soon as possible, so as to form an exact prognosis without delay. Examination of the cerebro-spinal fluid will certainly give valuable information, but in a fair number of cases of meningococcal meningitis the fluid is almost transparent during the first thirty-six hours, and contains only a few cells. On the other hand, the fluid in the early stage of these cases of poliomyelitis is definitely fibrinous and rich in cells, many of which may be polymorphonuclears. A superficial examination may show elements resembling cocci. Confusion is also possible with tuberculous meningitis, which yields a clear fluid containing lymphocytes.

We attach great importance to examination of the knee-jerks, which we have seen lost at an early stage, and to the presence of pain in the limbs, which appears more marked than in other forms of poliomyelitis.

The seasonal incidence must be taken into account, poliomyelitis being more frequent in summer and autumn and cerebro-spinal

meningitis in the spring. A number of our cases of poliomyelitis have also occurred in the winter. The occurrence of other cases of poliomyelitis will be a great help.

The diagnosis will be especially difficult when the symptoms remain entirely meningeal and there is no paralysis.

Help will sometimes be afforded by the co-existence of typical cases. A retrospective diagnosis may sometimes be made by having recourse to the test of neutralisation of the virus, which we were the first to use in conjunction with Levaditi, and which enabled Anderson and Frost to identify a case of this kind.

Poliomyelitis with meningeal onset has been especially frequent in France. In our first study in October, 1910, in collaboration with Tinel, chiefly based on cases in Paris and the suburbs, we found seventeen out of fifty-eight cases, or 29 per cent. In other parts of France it has been at least as high, and almost always it has caused the epidemic to be entitled "epidemic cerebro-spinal meningitis." Such was the case in an epidemic in the Basses Pyrenees in 1910. In Yonne and Aube in 1910 we found five meningeal forms among nineteen cases. In the departments of Mayenne and of Maine et Loire there were ten among eighteen cases in the same year.

In 1912 there were nine among eighteen cases in the department of Cher, and six out of eight in Charente Inférieure. In other countries, such as Sweden, Norway, Austria, Germany, and the United States, the meningeal forms were less frequent, though we found them mentioned on several occasions. On the other hand, in the Netherlands, the difficulty of distinguishing the two diseases has been recently noted, and the reports of Reece and Farrar show that in England meningeal symptoms existed in more than half the cases.

It is noteworthy that previous records indicate the great clinical resemblance between cerebro-spinal meningitis and poliomyelitis. In the epidemic of Otter Creek Vale, described by Caverley and Macphail, the meningeal symptoms were so marked that Jacobi did not hesitate to regard the epidemic as one of cerebro-spinal meningitis.

Another instance of the kind was the Swiss epidemic of Lommis in 1901, the description of which by Walder in 1906 is entitled "An Epidemic of Cerebro-spinal Meningitis," although the author had found paralysis and atrophy still present in a number of his old patients after an interval of five years.

We ourselves in 1898 and 1899 made the diagnosis of cerebro-spinal meningitis in five cases in which the meningeal symptoms were

followed by paralysis and atrophy of the lower limbs and neck muscles. The progress made by bacteriology and experimental pathology since then now prevents an error which was at that time quite justifiable.

The confusion was all the more excusable for a reason difficult to appreciate at first sight, viz. that poliomyelitis and cerebro-spinal meningitis appear in epidemic form almost at the same time and in the same countries. This is especially so in France, in which the present epidemic of cerebro-spinal meningitis appeared at the beginning of 1909, while the epidemic of poliomyelitis started in August of the same year.

The year 1898, in which we saw several cases of poliomyelitis, was also remarkable for the unusual number of cerebro-spinal meningitis cases.

In the United States, Rhenish provinces and in Westphalia, poliomyelitis appeared after an epidemic of cerebro-spinal meningitis, and in England in 1912, in Nottingham at least, there was a coincidence of the two diseases.

Although poliomyelitis and cerebro-spinal meningitis are essentially different, the mechanism of their propagation is very similar. In both diseases the penetration and elimination of the virus takes place through the nasal fossæ, and in both infection is usually spread by germ-carriers.

There are grounds for supposing that the same cosmic influences act in the same way on the vitality and the diffusibility of the pathogenic agents of the two diseases.

WHOOPING-COUGH IN THE FIRST DAYS OF LIFE.

By E. A. Cockayne, D.M., M.R.C.P.,

Assistant Physician to the Middlesex Hospital, Physician to Out-patients to the Victoria Hospital for Children, Chelsea.

Whooping-cough is rarely met with in the first month of life and may be either congenital or acquired. I know of only one recent example of the former, but it is impossible to set aside the testimony of older writers. Sir Thomas Watson describes a case, in which the disease was contracted before the patient was born, saying, "My bedmaker's daughter in Cambridge had a child ill with hooping-cough in the house with her during the last weeks of another pregnancy and the newcomer hooped the first day he appeared in

the world." He also states that he has read of others. Rilliet and Barthez mention the case of a newborn child, whose mother had had whooping-cough for a month, and who had characteristic fits of coughing on the day of its birth.

A more doubtful case is quoted by Blache as congenital, in which the malady became evident on the sixth day after birth, and had been transmitted to the child *in utero* from the mother, who had contracted it from another child.

The case described by Cooper Cole last year is probably a congenital one, and, if this is so, shows that the organism may be found in the circulating blood or remain virulent in the placental tissues for nearly two months after the beginning of the illness.

The mother developed whooping-cough in the sixth month of pregnancy; the child was born at the eighth month on May the 26th, began to cough on the third day, May the 29th, and whooped on June the 12th, the seventeenth day.

The attack was typical and severe, but the infant made a perfect recovery.

In these cases there must be infection by the mother's blood such as occurs in congenital smallpox, pneumonia, enteric fever and other diseases. Judging by analogy with these and other specific diseases formerly thought to be local infections and now recognised to be general diseases, it is quite possible that the organisms of the disease are present in the blood in many if not in all cases of whooping-cough.

More numerous examples of whooping-cough in the newly born acquired after birth can be given, but even these are seldom met with and are often due to infection from the mother.

The earliest age at which it has been acquired seems to be in the case described by Bouchut. A woman lying-in in August, 1843, was visited by a parent, who brought with her a nephew, who had been suffering from whooping-cough for a month. He remained all day with the woman, and two days after the visit, the fourth day of the infant's life, it began to cough and whooped eight days after birth. It had twenty fits of coughing in twenty-four hours. The incubation period in this case was two days. Blache gives the case of a baby who coughed eight days after birth, having taken the disease from a brother. Carrier mentions a case of whooping-cough in a baby ten or eleven days old who took it from his mother, Holt one in a baby of twelve days, Neurath in a baby fourteen days old, and Roger and Sanné cases in babies of fifteen days.

These are all remarkable, when one considers that, though the

incubation period may be as short as two days according to Federici and Gerhardt, the usual time is eight to ten days, and it may be as long as fourteen or fifteen days.

Except for that of Bouchut the case I met with this year is the earliest example of the acquired disease of which I can find any mention.

A boy, aged 3½ years, whose mother was pregnant, began to cough on May the 24th, and whooped on June the 9th. The mother gave birth to a baby on May the 26th, and began to cough herself on May the 29th. The baby, a girl, began to cough on May the 31st, and whooped for the first time on June the 10th.

The boy had a very typical attack, but the mother, though she had well-marked paroxysmal cough, only whooped twice and was only sick once after a fit of coughing. The baby never brought up any phlegm but was sick sometimes after coughing, used to get "blue in the face," and whooped frequently, once in my presence.

Except for bronchitis she had no complication, and on July the 19th great improvement had begun to take place.

A blood-count by Mr. Hillier taken late in the paroxysmal stage showed the characteristic leucocytosis with increase of lymphocytes.

Red blood-cells	5,200,000 per cm.
White blood-cells	36,800 „
Lymphocytes	51·2 per cent.
Hyalines and transitionals	8·0 „
Polymorphonuclears	38·0 „
Eosinophiles	2·4 „
Mast-cells	·4 „

The disease began at the age of five days, and the incubation period must have been four days or less if the disease was caught from the brother, or two days if from the mother. The fact that the mother herself only developed the cough after the child was born precludes the possibility of intra-uterine infection.

It was probably contracted from the boy, who was allowed to lie on the bed the day after the birth and kissed both mother and baby.

Some of these cases may be overlooked owing to the fact that the disease in young babies is often atypical.

Whooping may be entirely absent and the baby cannot bring up the characteristic phlegm. Bronchitis is usually present, and except for the more paroxysmal nature of the cough there is little to distinguish it from a simple bronchitis which is so common at this age.

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A CASE OF CORNEAL ULCERATION ASSOCIATED WITH THE PRESENCE OF SPIRILLA AND FUSIFORM BACILLI.*

By W. G. Goudie, M.B.,

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J. R. Sutherland, M.B., D.P.H.,

Assistant Bacteriologist to the Glasgow Corporation.

A girl, aged 14 years, an inmate of an industrial school, was admitted to the Glasgow Eye Infirmary on November the 22nd, 1912, suffering from a profuse discharge from each eye. Regarding her previous health and her family history no details could be got. The girl was illegitimate, mentally defective, and friendless.

Her present illness commenced a fortnight before her admission to hospital, and was characterised by the sudden onset of pain in each eye and by the appearance of discharge from each conjunctival sac. The discharge appears to have been profuse and purulent from the start. No cause could be given for the occurrence of this illness. There were no cases of eye trouble in the school at the time, nor had there been any for some time previously. There was, however, an epidemic of "sore throat" in a town not far from the school, and some of the scholars who were in the habit of going to

* A paper read at the Section of Ophthalmology of the Royal Society of Medicine on June the 4th, 1913.

the town contracted this trouble. In the opinion of the medical men who treated those suffering in this epidemic the condition was not diphtheritic in nature and was not accompanied by any eye symptoms. Our patient, although she had been in close contact with these scholars, escaped infection.

Present condition (November the 22nd, 1912).—Patient is poorly developed but healthy. No signs of tuberculous or of syphilitic disease can be discovered. (A Wassermann test carried out at a later date gave a negative result.) The condition of the eyes is as follows :

Right eye.—Both eyelids are red and swollen. Slight pressure over the upper eyelid causes an escape of pus from the conjunctival sac through the palpebral fissure. Owing to swelling of the lids and blepharospasm a view of the cornea is obtained with difficulty. When exposed it is seen to be deeply ulcerated, corneal denudation having occurred at three relatively large areas to such an extent that Descemet's membrane is exposed at each of these positions as a black, glistening prominence. Intact cornea is represented only as narrow strands separating these keratoceles and as a narrow ring at the peripheral margin of the cornea. In these situations it appears to be infiltrated with pus. Hypopyon and turbid aqueous humour prevent inspection of the iris and deeper structures of the eye.

Left eye.—In case of this eye less corneal ulceration has occurred. The appearance is otherwise very similar to that of the right eye. The lower half of the cornea is occupied by an ulcer, the floor of which is formed by Descemet's membrane. The upper half of the cornea is infiltrated with pus. Hypopyon and turbid aqueous humour exist as in the case of the right eye. Both tear-sacs appear to be healthy, and nothing abnormal can be discovered in the condition of the nose or throat. Repeated irrigation of both sacs had the effect of reducing the discharge, so that in six weeks it had almost ceased. Three months from the date of the onset of the illness both corneæ were healed, but were leucomatous to such an extent that vision was *nil*.

Bacteriological Examination.

Films were made from the discharge and stained by Gram's method, weak carbol-fuchsin being employed as a counter-stain. These films showed numerous organisms and polymorphonuclear leucocytes. Of the organisms those most striking in appearance and point of number were spirilla and fusiform bacilli. The former

were long and attenuated, presented four to six large irregular curves on their bodies and lost Gram's stain. They appeared to take on the counter-stain somewhat faintly. The fusiform bacilli, much shorter and stouter than the spirilla, also lost Gram's stain, but stained deeply with the carbol-fuchsin. They tapered to a point at their extremities and presented an unstained middle portion.

The remaining organisms to be seen in the films included Gram-positive cocci and Gram-positive bacilli. The former were arranged mostly as diplococci. A few were lodged within the bodies of the polymorphonuclear leucocytes, but the great majority were extracellular. The Gram-positive bacilli referred to, apart from taking on Gram's stain intensely, offered no distinctive features. This state of affairs existed in the case of each eye. Swabs were taken from patients' throat and nostrils, but in none of them were to be seen spirilla or fusiform bacilli.

By inoculating various culture media with the discharge from the eyes it was possible to isolate the Gram-positive cocci and Gram-positive bacilli described above. Repeated attempts to grow the spirilla and fusiform bacilli on media under circumstances generally regarded as suitable for the growth of such organisms were unsuccessful. This is the more remarkable when one considers that these organisms could be demonstrated microscopically in the pus for a period of two weeks dating from the time when the case first came under our notice.

The Gram-positive coccus which was isolated from the discharge grew readily at room temperature in all the ordinary media, producing complete liquefaction in a gelatine stab preparation in about seven days. Growth in agar was vigorous, and ultimately assumed a yellow colour, which appeared about the tenth day. In tubes of broth containing separately saccharose, lactose, mannite, maltose, and glycerine, an acid reaction was produced in each. Raffinose, inulin and salicin were unaffected. The same organism reduced nitrates to nitrites and clotted milk. In films made from the cultures it appeared as a typical Gram-positive staphylococcus. Its staining reaction and cultural properties thus correspond to those of *Staphylococcus aureus*.

The second organism obtained in culture from the pus—namely, the bacillus—did not grow on agar or gelatine. Growth on inspissated serum appeared in the form of small white tough colonies. With the exception of its action on glucose and saccharose, both of which it fermented, this organism had no apparent effect on the sugars usually employed for the differentiation of organisms. Stained by methylene-blue, Neisser's stain, and the Gordon Pugh stain, it pre-

sented a striking similarity to the *Bacillus diphtheriæ*, but from a consideration of its cultural characters, and from the fact that it proved non-pathogenic to a guinea-pig when injected subcutaneously, we are inclined to the view that it was the *Bacillus xerosis*.

The virulence of the staphylococcus and of the bacillus was tested on the guinea-pig's eye. The cornea of a guinea-pig was abraded by means of a sterile needle, and an emulsion of the organism instilled into the conjunctival sac. Two guinea-pigs were employed in the tests—one for each organism—and in neither case did any sign of corneal or conjunctival inflammation result.

The actual pus from the patient's eyes was not tested in the same manner. Whether the spirilla and fusiform bacilli, acting together or separately, were virulent to these tissues was not ascertained experimentally, but it seems likely from the avirulent character of the staphylococcus and *Bacillus xerosis* that the marked destructive changes which occurred in the patient's corneæ could not have been produced solely by them. In any case, the presence of spirilla and fusiform bacilli in an inflammatory condition of the eye appears to us so uncommon as to induce us to record the preceding observations.

We are indebted to Mr. Fergus for his kindness in permitting us to publish this case.

British Medical Association.

SECTION OF DISEASES OF CHILDREN, INCLUDING ORTHOPÆDICS.

Eighty-first Annual Meeting, held in Brighton, July the 22nd to 25th, 1913.

Affections of the Heart in Childhood.—Dr. F. J. Poynton, who dealt mainly with the preventive treatment, said that the chief factor in the heart disease of childhood was an infection of some kind or another, which was most frequently rheumatism. The greater frequency of this disease among the poor called for preventive measures, such as the distribution of printed leaflets to the parents of rheumatic children and to the schoolmasters and mistresses of large schools, on the dangers to be avoided and the precautions to be taken. Enucleation of diseased joints in the rheumatic and attention to morbid conditions of the throat, naso-pharynx and teeth were also indicated. Special attention should be devoted to children in convalescent hospitals recovering from acute rheumatic carditis or chorea. In conclusion Dr. Poynton advocated an investigation on a large scale into the house incidence and local incidence of acute rheumatism.

Dr. Carey Coombs discussed the diagnosis and prognosis of heart disease in children. He said that though much harm might be done by failure to

discover existing heart disease, almost as much might result from diagnosing heart disease which was not present. After describing the varieties of exocardial bruits he spoke of the irregular pulse of childhood. Like Friberger (*vide* British Journal of Children's Diseases, 1913, x, *p.* 82), he had found that arrythmia was very often met with in normal children, while on the other hand, organic heart disease rarely caused irregularity of pulse. He held that the infective agent of rheumatic heart disease entered the body in many, if not all, by the lymphoid tissue of the nose and throat, and during the interval of attacks found an extra-circulatory resting-place in the naso-pharyngeal wall and tonsils. Attempts should be made to eradicate the disease by removal of tonsils and adenoids.

The Surgery of Childhood.—Mr. J. H. Nicoll (Glasgow) made a plea for the more extensive use of the out-patient department for operations in children. Personally he had performed over 20,000 operations on children in the out-patient department. The list included operations for hernia, hydrocele, talipes, spina bifida and cephalocele, hare-lip and cleft palate, mastoid disease, hypospadias, epispadias and extroversion of the bladder, imperforate rectum, pyloric stenosis, vesical calculus, birth fracture of skull, undescended testis, ganglion, prolapsus recti, dermoids, web-fingers, cicatricial deformities, intestinal obstruction, malunited and ununited fractures, and numerous less common affections. His results had been as good in the out-patient department as in the wards, and in the case of young infants much better. He recommended that the in-patient department should be reserved for (*a*) children beyond the portable age *i. e.*, above five or six years; (*b*) children whose homes were at a distance; (*c*) cases in which extended diagnostic observation was necessary; (*d*) cases requiring special after-treatment, such as saline infusions for shock, and tracheotomy or colostomy cases.

Cardiac Efficiency from the School Point of View.—Dr. A. A. Mumford discussed the principal school activities which call for cardiac efficiency, viz. (1) Swedish exercises; (2) running, jumping and general school games; (3) swimming.

Swedish exercises involved very little strain upon the circulation, and should only be forbidden in cases of recent acute febrile disease, recent mild appendicitis, rupture, recent fracture, and mild Graves's disease, of which the speaker had seen several cases among adolescent boys.

Standards at present in use at the Manchester Grammar School were given in regard to running, jumping and swimming.

If the vascular constriction shown by white and numb fingers did not give way rapidly on leaving the water, bathing should be prohibited. It was inadvisable for the temperature of an ordinary swimming-bath to be below 70° F.

Choice of Methods in Dealing with Paralytic Deformities in Children.—Mr. T. H. Openshaw summarised the various methods—rest, tenotomy, nerve sections and grafting, and gave examples of his own cases. Oblique division of the tendons was advisable in many instances. Transplantation of the peronei into the tibiales was among the most successful of all transplantation operations. Walking instruments might have to be worn for several years before deciding whether any return of power to the paralytic leg was possible or not.

Many muscles might require division in hemiplegia patients, especially the pronator radii teres and subscapularis.

Prof. Foerster (Breslau) described his treatment of spastic paralysis by division of the posterior spinal nerve-roots. He had treated 237 cases with 20 deaths, a mortality of 8·4 per cent. Of these, 200 were children, with 15 deaths—a mortality of 7·5 per cent.; 138 of the children were cases of Little's disease, with 8 deaths. The operation was only justified in stationary or slowly progressive diseases such as Little's disease, spastic paraplegia, or hemiplegia following acute encephalitis, and some cases of hydrocephalus. It was contra-indicated in progressive diseases such as disseminated sclerosis, hereditary syphilis, many cases of hydrocephalus and in Pott's disease. Cases of athetosis gave disappointing results. Resection of a large number of roots was advisable, otherwise the spastic paralysis was likely to return after the operation. Electrical stimulation of the motor nerve-roots (lumbar and sacral) should be performed as a precautionary measure before the division of the nerve-roots. After-treatment was most important.

Diagnosis and Treatment of Acute Abdominal Inflammation in Children.—Mr. C. B. Lockwood said that though the clinical signs were never the same, one at least of the following danger-signals was always present: (1) A sudden acute onset in the midst of health, followed by an elevation of the pulse and temperature; (2) a progressive increase in the pulse-rate; (3) a rapid pulse which intermits; (4) simultaneous and progressive increase in the pulse and temperature; (5) a rigor; (6) leucocytosis; (7) acute abdominal pain; (8) abdominal tenderness, especially when extending; (9) abdominal rigidity; (10) pain during micturition or defæcation; (11) retention of urine; (12) abdominal distension and intestinal obstruction.

Periods of repose after sudden onset of some acute abdominal condition were often most misleading. Premonitory symptoms might be absent or misinterpreted. The diagnosis of "ptomaine poisoning" or "bilious attacks "often concealed an acute inflammatory condition of the abdomen. The pelvic appendix of the fœtal type was one of the chief anatomical predisposing causes of appendicitis. Short histories of twenty-eight illustrative cases were given.

The Necessity for Selection and for Skilled Supervision in the Treatment of Spinal Deformity by Exercise.—Mr. J. S. Kellett Smith (Eastbourne) warned his hearers against the so-called Swedish Institutes in London which granted certificates to their pupils after a few weeks' tuition and payment of a fee. The ideal method was to place the patient at a school where a specially trained nurse paid daily visits and superintended each period of exercise, and the surgeon directed the whole conduct of the case.

Treatment of Acute Poliomyelitis.—Mr. H. S. Blundell Bankart advocated the application of plaster-of-Paris splints as a routine treatment in place of massage, electricity, exercises and removable splints. His practice for a long time past had been to put all cases into plaster-of-Paris splints and to leave them on continuously for months at a time. He had thus been able to obtain complete recovery in many cases and great improvement in most of the others. In the treatment of residual paralysis he recommended the use of a properly made orthopædic instrument and condemned celluloid splints.

XVIIth International Congress of Medicine.

London, August the 6th to the 12th, 1913.

SECTION OF DISEASES OF CHILDREN.

President: Dr. Eustace Smith.

(*Continued from p.* 507.)

The Diagnosis of Pulmonary Tuberculosis.—Dr. D. B. Lees (*vide* p. 529).

Radiographic Diagnosis of Chest Affections in the Child.—Drs. D'Œlsnitz and Paschetta (Nice).—With the exception of bronchiectasis diseases of the bronchi only exceptionally give a recognisable shadow. In pneumonia when the area of consolidation is situated at the apex there is a triangular dark homogeneous shadow as described by Weill. Congestion of the lungs gives a diffuse transient, and ill-marked shadow. Persistence of the shadow should always suggest pulmonary tuberculosis. Lobar pneumonia at first gives no recognisable shadow, but in cases of long duration, especially of the pseudo-lobar form, a spotted shadow is seen.

Pleurisy and pneumothorax give the same appearances as in the adult. Interlobar inflammation gives a diffuse and indefinite shadow. Acute pulmonary tuberculosis gives homogeneous or dotted shadows without definite form which persist and extend. In chronic forms X rays show the commencement of the lesions at the bases and sometimes foci which are not recognisable clinically. Hypertrophy of the thymus shows a dark, homogeneous, well-defined shadow which merges into the heart shadow.

The Intestine as a Pathway of Infection to the Tubercle Bacillus, with Special Reference to the Part played by Diarrhœa.—Dr. Leonard Findlay (*vide* p. 502).

Intravenous Injection of Neo-salvarsan in Scarlet Fever.—Dr. Louis Fischer (New York).—Unlike some observers Fischer had rarely found Wassermann's reaction positive in scarlet fever. Ten septic cases were treated in which the prognosis seemed hopeless. Three recovered. The injections were mostly made into the jugular vein. In children under two years ·06 to ·01 grm. neo-salvarsan in 20 c.c. sterile water was used, and the same doses were repeated in twenty-four hours if no improvement occurred. If necessary a third dose was given. The best results were noted in noma and other gangrenous conditions.

Observations on Vaccinal Allergy in the Eruptive Fevers.—Dr. Netter read a paper confirming his previous observations on the diagnostic value of vaccinal allergy in the eruptive fevers (*vide* 'Comptes rend. Soc. de Biol.,' 1912, lxii, *p.* 914; and lxiii, *pp.* 108 and 160.)

Measles.—In measles anergy to vaccination exists as definitely as in relation to tuberculin.

Observations made on seventy-nine cases showed that vaccinal anergy was the rule on the day preceding the eruption and during the first two days of the eruption, while on the third and fourth days thirteen out of twenty-one reacted positively. After the fourth day the reaction was invariably positive. Most of the cases which gave a positive reaction at that date were negative during the first days of the eruption. This anergy shown by measles is obviously of considerable importance. It occurs not only with tuberculin and vaccination, but also with diphtheria antitoxin, after injection of which serum eruptions are much rarer than usual. It may be compared with the transitory disappearance of Wassermann's reaction noted by P. Teissier. One must bear in mind the susceptibility of measles children for tuberculosis, diphtheria and necrotic affections, and the consequent necessity of large doses of antitoxin for the prophylactic and curative treatment of diphtheria occurring in measles.

Scarlet fever.—In scarlet fever the reaction to vaccination was positive the first day in 11 out of 17 cases, or 64 per cent., on the second day in 22 out of 25, or in 88 per cent., and on the third day in 7 out of 7, or in 100 per cent.

Three cases of scarlet fever following measles showed allergy during scarlet fever after anergy in measles. Inversely, two children who had reacted during scarlet fever showed no reaction when they were vaccinated after contracting measles.

Three children who were admitted as cases of measles and showed vaccinal allergy were found to have eruptions that had no connection with measles at all. In two cases the eruption was due to alimentary intoxication from eating mussels.

German measles.—Out of nineteen cases of German measles eighteen showed vaccinal allergy. Two children who had reacted during German measles had not shown allergy during measles. This opposition between the vaccinal allergy of German measles and the anergy of measles is of considerable importance owing to the occasional difficulty of diagnosis between the two diseases. Glandular enlargement frequently exists in measles while Koplik's spots are occasionally found in rubella, as has been shown by Widowitz, Motto Cocco and Ottfried Moller.

Chickenpox.—In six cases Dr. Netter examined the reaction to inoculation of the fluid from the vesicles, and also the reaction to vaccination. In five a definite papule appeared at the site of vaccination. At the inoculation site of the varicella virus in three there was no reaction, in the fourth there was a small papule, and in two cases slight suppuration occurred due to the pyogenic organisms so frequently found in varicella.

Vaccine Therapy of Injections of the Urinary Tract with Colon Bacilli.—Dr. E. Gorter (Leyden).—Eighteen cases were treated, characterised by their chronic course and frequency of relapses. The vaccines were prepared in the usual way. The dose varied from 10 to 70 million bacteria. One died of broncho-pneumonia, in two the treatment was entirely unsuccessful, two showed some improvement, and thirteen completely recovered.

Hypersaccharated Milk in the Treatment of Infantile Dyspepsia with Vomiting.—Drs. G. Variot and P. Lavialle (Paris) found that condensed milk completely arrested the vomiting of infantile dyspepsia. They used a sweetened condensed milk obtained by evaporating *in vacuo* to

the consistency of honey a milk to which 12 per cent. of sugar had been added. The milk was then diluted with four times the amount of boiling water. Chemical analysis showed the mixture to contain 2·7 per cent. fat, about 2 per cent. casein, 2 per cent. lactose, and 10 per cent. saccharose. The therapeutic effect of the condensed milk was not due to condensation, since it was not present in unsweetened condensed milk. Milk sterilised by scalding and sweetened when cold gave uncertain results, while milk hypersaccharated before sterilisation gave excellent results and possessed the advantage of being sterile and keeping indefinitely.

Brownian Movement in Homogenised Milk.—Dr. P. Lavialle (Paris).—Microscopical examination of ordinary cow's milk shows the globules to be of very different sizes. The great majority are relatively large and absolutely motionless. A very small number are minute and show a certain degree of movement. A third variety is also found which in size and mobility presents every degree of transition between the other two. Brownian movement is thus present in only a very small quantity of the globules of ordinary cow's milk. In homogenised milk, on the other hand, the globules have been reduced to the smallest dimensions, and all show characteristic Brownian movement. Every surface of each globule is thus brought into contact with the surrounding medium, and currents which further bio-chemical reactions are established in the milk itself or in mixtures of milk with the digestive juices.

Death Certification and Infantile Mortality.—Dr. J. C. McWalter (Dublin) suggested the following reforms: The births should be registered under thirty-six hours and the deaths within three days. An inquiry, if not an inquest, and an autopsy should be made if no doctor had attended the child for fourteen days. The certificate should state whether the child had been breast- or bottle-fed, and with what food. It should also state how many children were alive in the same family and how many dead. The statistics of the Registrar-General would thus be more trustworthy, and the local health authorities would have more immediate and reliable information as to the existence of epidemics or unusual causes of death.

Acute Encephalitis in Children.—Dr. J. Comby (Paris).—Acute encephalitis is very common in children. It may appear at any age, but by preference in the first year of life. It is frequent in infants, but rare after seven years and quite exceptional after ten, for as the child advances in age its brain becomes less vulnerable. A toxi-infective process is the origin of most cases. Various micro-organisms have been found post mortem. The disease may be primary, but as a rule it has been preceded by some acute infection, such as influenza, whooping-cough, typhoid fever, measles, diphtheria, etc. In one case it occurred after carbon monoxide poisoning. The earliest and most striking symptom is convulsions, which are followed by coma with flaccidity or contractures of the limbs. Often hemiplegia occurs with or without mental disturbance, rapidly becomes spastic, and is associated with permanent contractures, hemi-chorea and hemi-athetosis. In some cases the paralysis does not persist, and complete recovery takes place. Another important sequel is epilepsy, which is almost always due to acute encephalitis. The same is to be said of acquired idiocy, whether accompanied by motor disturbances or not. Diagnosis can be made in most cases by lumbar puncture, the cerebro-spinal fluid in acute encephalitis being

absolutely normal. The prognosis should always be guarded, for even in cases in which the paralysis is only transitory epilepsy may develop later.

The treatment is the same as in acute meningitis.

Polioencephalitis and Poliomyelitis.—Dr. F. E. Batten related the additions to our knowledge of the subject since the last International Medical Congress in 1909, and then dealt with the clinical symptoms of polioencephalitis and poliomyelitis in man. He discussed the forms described by Ivar Wickman, and alluded to what Sir Thomas Barlow had called the "jump type," in which the disease remained stationary for some days and then suddenly and rapidly advanced. He next dealt with the incidence of poliomyelitis in London, in which he showed the disease had been endemic for years. In conclusion, he stated that poliomyelitis and polioencephalitis must be regarded as an acute specific fever with an incubation period which varied, but was on the average from eight to twelve days. The virus was carried in the mucous membranes of the mouth, nose and pharynx, not only of those suffering from the disease, but of those who had been in contact with it. Any part of the nervous system might be affected, but the grey matter of the anterior horns suffered most.

The Meningeal Form of Poliomyelitis.—Dr. A. Netter (Paris) (*vide p.* 531).

A New Symptom of Scurvy Rickets.—Dr. Siegfried Weiss (Vienna) drew attention to hæmatoma of the cheek as a new symptom of Barlow's disease. Its rarity was probably due to the fact that considerable extravasation of blood was required to produce it. Owing to its painlessness it was more liable to be overlooked than the painful swellings on the lower limbs.

Sir Thomas Barlow agreed with the diagnosis.

National Association for Prevention of Infant Mortality.

A second Post-Graduate Course on the Feeding and Care of Infants will be held from January the 12th to January the 22nd, 1914, under the auspices of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy. A strong Advisory Committee has already been formed, the members including Sir Thomas Barlow, Dr. W. Hale White, Dr. E. W. Hope, Dr. James Kerr, Prof. C. J. Martin, Sir Shirley Murphy, Dr. Arthur Newsholme, Sir William Osler, Sir John Tweedy and many others. This course will be on the same lines as those which proved so successful in the first, but there will, in addition, be an evening lecture each day. A full syllabus and further particulars will be obtainable shortly from the Secretary of the Association at 4, Tavistock Square, W.C.

Abstracts from Current Literature.

Medicine.

Inherited tuberculosis (*'Osp. d. Bamb. d. Milan.,'* 1913, I, *p.* 147).—**G. Repaci** records a case in an infant whose mother was suffering from pulmonary tuberculosis. At birth the child was well developed and of normal appearance. For the first four days it was suckled by its mother, and was then taken away from her and fed on sterilised cow's milk. Death preceded by gastro-intestinal disturbance took place on the thirty-ninth day of life. Post mortem general miliary tuberculosis was found. Tubercle bacilli were present in enormous numbers in all the organs, and inoculation of guinea-pigs with portions of the liver, spleen and lungs was positive. The mother died later and pulmonary tuberculosis was found at the autopsy. Unlike Péhu and Chalier (*v.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, V, *p.* 454), who hold that only cases of tuberculosis in the first month of life should be regarded as congenital, Repaci thinks that tuberculosis which proves fatal during the first three months of life should always be suspected as being congenital.

J. D. ROLLESTON.

A case of hereditary contagious tuberculosis (*'L'Echo méd. du Nord,'* 1913, XVII, *p.* 209).—**Deléarde** describes the autopsy of a child one month of age, whose mother had died a fortnight previously of pulmonary tuberculosis. The spleen on section showed numerous tubercle bacilli. Inoculation of guinea-pigs produced tuberculosis.

F. R. B. ATKINSON.

Pulmonary tuberculosis in infants (*'Monatsschr. f. Kinderheilk.,'* 1913, XII, *p.* 211.—**R. Lederer** publishes three cases of this disease in infants, aged 11, 10 and 4½ months respectively, which ended in cure, in order to show that the disease is not absolutely fatal at such an early age.

F. R. B. ATKINSON.

Tuberculosis in infants (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift,* 1913, *p.* 131).—**J. Cassel.**—Of 1282 cases received into the hospital in Berlin in seven and a half years six died of tuberculosis. In four of these latter the mother was tuberculous. The fever was markedly remittent. There was no special digestive disturbance. The weight curve went *pari passu* with the fever. If the fever ceased the weight remained stationary or slightly increased. Bacilli were not found in any of the cases.

F. R. B. ATKINSON.

Symptoms and pathology of pulmonary tuberculosis in infants (*'Monatsschr. f. Kinderheilk.,'* 1913, XII, *p.* 140).—**A. v. Konschegg** and **R. Lederer** describe three cases of acute phthisis in children, aged 5 months, 3 months and 4½ months respectively, who were well nourished but died very rapidly from the disease. The authors draw attention to the difficulty of diagnosis in such cases. In a fourth case in a child, aged 5 months, the same result occurred, and section showed the same condition of affairs, but the child in this case was badly nourished. In a fifth case in an infant, aged 3½ months, death occurred from chronic phthisis. All the cases show that the prognosis of pulmonary tuberculosis in young children is absolutely bad.

F. R. B. ATKINSON.

Clinical forms of tuberculosis in the infant (*'Journ. de méd. de Bordeaux,'* 1913, LXXXIV, *p.* 543).—**R. Cruchet** divides these forms into anæmic, abdominal, respiratory, glandular, cutaneous and nervous. In some cases the temperature is always normal, in others the curve varies considerably. Tachycardia and loss of weight by themselves are of no great significance. Laboratory methods, such as injections of artificial serum, the use of potassium iodide, and examination of the urine and blood, are not sufficiently pathognomonic to be of any certain value. Von Pirquet's reaction, if positive, is of great value in diagnosis, but is frequently negative when tuberculosis is undoubtedly present. When tuberculosis is fully developed, laboratory methods, especially examination for the bacillus in the various excretions, is invaluable for strengthening the diagnosis.

F. R. B. ATKINSON.

Prognosis of infantile tuberculosis (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift*, *p.* 742).—**G. Tugendreich** was able to trace ten cases which had given a positive von Pirquet's reaction in the first year of life. Nine had died—five in the first year, two in the second, one in the third and one in the fourth. The survivor, which had given a positive reaction at the age of five months, is now aged 3½ years old, and well developed, but is still under treatment for cutaneous tuberculides. The five deaths in the first year were all due to tuberculosis; the rest were due to intercurrent disease, viz. non-tuberculous broncho-pneumonia, scarlet fever and diphtheria.

J. D. ROLLESTON.

Should tuberculous mothers suckle their children? (*'Arch. f. Kinderheilk.,' Baginsky Festschrift*, 1913, *p.* 221).—**O. Cozzolino** asks the following questions: (1) Does the tubercle bacillus pass into the milk of a tuberculous mother? All authors save v. Behring answer this question in the negative except in rare circumstances. (2) Are the toxins of the tubercle bacillus excreted by the milk? This can occur, but the amount is so small that evil consequences can rarely result. (3) What influence does suckling exercise on the mother? An existing tuberculosis is made worse, and a latent tuberculosis is often set aflame. (4) What influence does the milk of a tuberculous mother exercise on the suckling? The author considers that Auvard's saying is justified: "Jeune fille—pas de marriage, femme—pas d'enfants, mère—pas d'allaitement."

F. R. B. ATKINSON.

The initial localisation of pulmonary tuberculosis in the child (*'Arch. de méd. des enf.,'* 1913, XVI, *p.* 641).—**C. Leroux** describes some cases of tuberculosis in children and finds as follows: (1) In the infant and young child, the base or middle part of the lungs is in the majority of cases the primary seat of inoculation. (2) To find out this, clinical examination is insufficient, and it is necessary to use radiography. (3) The newly born resist tuberculosis badly. (4) By radiography carried on for years it is possible to follow the evolution of glandulo-pulmonary tuberculosis, which shows three stages: (*a*) pulmonary infection of some part of the lung, and unilateral and then bilateral adenopathy; (*b*) tracheo-bronchial adenopathy, more or less latent; (*c*) re-infection of the apex and evolution of chronic pulmonary disease. This mode of evolution is very frequent. (5) In older children infection starts at the apex and the adenopathy is secondary. (6) In many cases the adenopathy is primary and the apex is affected secondarily.

F. R. B. ATKINSON.

The course of tuberculosis in children (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift*, 1913, *p.* 242).—**A. Czerny.**—The course is extremely various; in one case the primary focus does not spread, in another new foci arise from the primary one. Some cases heal quickly; others lead to death from dissemination in a few months. The younger the child the more frequent the spread of the disease seems to be. The dissemination and development of multiple foci seem to stand in relation to the richness of the body in water, and this is greatest when the child lives on milk and carbohydrates. If the body be rich in water the soil is suitable for various bacteria. Hence a mixed diet is the best. Fresh air and sunlight favourably influence the progress of the disease, and Czerny thinks that fresh air is of more importance than the latter. Children with a nervous system not easily excited better withstand the attacks of the disease than those of excitable disposition. F. R. B. Atkinson.

Portals of tuberculous infection in children in the first year of life (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift*, *p.* 482).—**O. Medin.**—At the Children's Infirmary in Stockholm from 1842 to 1911 inclusive, 7630 infants died in the first year of life, and an autopsy was held in almost every case: 623 were found to have tuberculosis, though this disease was not necessarily the cause of death. In 287 cases the lungs or bronchial glands separately or in combination were affected, and in only six the intestines or mesenteric glands. There was not a single instance of congenital infection or of primary infection by the skin mucosæ or larynx. During the last eighteen years (1894 to 1911) no case of primary tuberculosis of the intestines or mesenteric glands has been observed, and in thirty years' practice in children's diseases Medin has never seen a case of infantile tuberculosis due to cow's milk. J. D. Rolleston.

The portals of entry of the tubercle bacillus, especially in childhood (*'Brit. Med. Journ.,'* 1913, i, *p.* 210). — **E. Emrys-Roberts** points out that the portals of entry of the tubercle bacillus, especially in childhood, include the respiratory system, the alimentary tract, mucous membrane of the naso-pharynx, the skin, and, lastly, the placenta. The importance of these many portals is evidenced in the practical tuberculinisation of the community, and is of interest in the detection of the source of infection, both human and bovine. In conclusion, he quotes the resolution adopted at last year's International Congress: "Prophylaxis of tuberculosis must principally be directed towards the suppression of contamination from man to man, and principally in the family, and, whilst contamination of man by bovine infection is of less frequency, it is, nevertheless, necessary to maintain all measures against infection from this source." J. Allan.

The pathology of tuberculosis in infancy and childhood (*'Lancet,'* 1913, i, *p.* 959).—**C. P. Lapage** and **W. Mair** find that the mortality from tuberculosis in children rises during the first year, reaches its maximum in the second year, and then falls rapidly. Glandular disease is very common in childhood, and in 17 per cent. of cases it is limited to the lymphatic glands. The abdominal glands are more often affected than the thoracic; the commonest condition is that in which both sets of glands are enlarged, and there may be no tuberculosis of the lungs or intestine at the same time. Apical disease of the lungs is not very rare even in infants, and chronic phthisis does occur in young children. Chronic cavitation is

found even in young children. Tuberculous meningitis most often follows generalised or miliary tuberculosis, but not uncommonly occurs as a complication of glandular or bony tuberculosis. F. R. B. Atkinson.

A study of the types of organism in a series of bone and joint tuberculosis of children (*'Brit. Med. Journ.,'* 1913, i, *p.* 760).—**J. Fraser** records some investigations of a study of seventy cases of bone and joint tubercle. His conclusions are as follows: (1) It is possible by certain tests to distinguish between human and bovine types of bacilli. (2) A considerable proportion of bone and joint tubercle of children in Edinburgh is due to infection by the bovine bacillus. (3) The bovine bacillus is introduced into the body by the drinking of infected milk. (4) A considerable proportion of the cases of tubercle due to the human bacillus are the result of the direct infection of the child by a consumptive co-resident. J. Allan.

Suprarenal insufficiency in the tuberculous (*'Gaz. des hôp.,'* 1912, lxxxv, p. 1151).—**E. Sergent** describes two forms of the above condition: (1) The patient presents no other lesions of tuberculosis save in the suprarenals. (2) The patient is markedly tuberculous, and in the course of the disease shows symptoms of suprarenal insufficiency. The type of the first form is Addison's disease. The second form shows two varieties—(*a*) pigmentation is slight; (*b*) there is no pigmentation. The author strongly recommends the use of adrenalin in the treatment of this condition.

F. R. B. Atkinson.

Erythema nodosum and tuberculosis (*'Osp. d. Bamb. d. Milan.,'* 1913, i, *p.* 177).—**V. Lovati** records two cases of erythema nodosum in children, aged 7 and 10 years respectively. The former showed signs of tuberculosis of the left apex, and in the latter there was no definite tuberculous focus, though the general condition was suggestive of latent infection. Both gave a positive cuti-reaction. While admitting the existence of some cases of idiopathic erythema nodosum, Lovati holds that it is the manifestation of a soil suited for tuberculous infection, which, if not actually present, may develop at a more or less distant date (*cf.* British Journal of Children's Diseases, 1910, vii, *pp.* 37 and 417, and 1912, ix, *pp.* 43, 178, 465).

J. D. Rolleston.

A group of infants infected by a tuberculous attendant (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 1617).—**A. F. Hess** shows how easily tuberculosis may be spread. Ten children, varying in age from about 2 to 3 years and occupying one ward in a large infant asylum, were placed in charge of a new attendant on May 15, 1912. It was not known that this nurse recently had been ill with tuberculosis, but towards the end of June her health began to fail and tubercle bacilli were found in her sputum. She had then been in charge of the children for six weeks. As a matter of routine these children had been subjected to the von Pirquet test in April, and three of the ten had given a positive reaction. In July, soon after the nurse left, all were found to react in the same way as three months previously. In October the entire group was again re-tested, when all gave a positive reaction, and the same occurred when the test was repeated in January, 1913. None of the children cough or show any definite signs of tuberculosis, and although they have not all gained weight satisfactorily

they are all fairly well nourished. The children never leave the precincts of the institution, and therefore are not exposed to infection from without.

T. R. Whipham.

Early diagnosis of tuberculosis by the X rays (*'Gazz. internaz. di med. chir., etc.,'* 1913, *pp.* 505, 530).—**F. Fonzo** records fifty cases in children, aged from 2 months to 10 years, and comes to the following conclusions: (1) Radioscopy of the thorax is of the utmost value in controlling lesions that are diagnosed clinically; (2) radioscopy is of great service in revealing apical lesions which cannot be demonstrated clinically; (3) radioscopy is of great value in the early diagnosis of tuberculosis in children.

J. D. Rolleston.

X rays in pulmonary tuberculosis (*'Brit. Med. Journ.,'* 1913, I, *p.* 449).—**C. P. Lapage.**—In a memoir read at the Manchester Medical Society on the early diagnosis of pulmonary tuberculosis in young children, with especial reference to the value of X rays, Lapage drew attention to the frequency of pulmonary tuberculosis in children, and to the evidence which showed that the disease was so often at the roots of the lungs. Conditions which gave rise to difficulty in diagnosis were: (1) Active open disease at the roots; (2) active disease limited to the bronchial glands; (3) healed disease in the lungs, with some superadded condition, causing general symptoms resembling those of tuberculosis. Examination by means of X rays was invaluable in cases with suspicious symptoms, and in early cases as a supplement to the clinical examination. **Bythell,** discussing the same question, directed attention to the importance of thoroughly examining the appearance of the roots of the lung. In his opinion, the normal streaky markings visible in all lungs might be increased by bronchitis, and he regarded shadows due to enlargement of the bronchial glands or to pulmonary consolidation as the only reliable signs of tuberculous infection. Pulmonary tuberculosis in children commenced in the vast majority of cases, if not invariably, at the root of the lung. In the earliest stages of this root disease definite indication of the lesion might often be discovered by means of the rays when there were no physical signs to be detected.

J. Allan.

The present status of tuberculin tests (*'Med. Record.,'* 1913, XXXIII, *p.* 1079).—**C. B. Slade.**—Moro's test is quite unreliable. The subcutaneous test is the most reliable from a scientific point of view; clinically it is not absolutely reliable, even when negative. Calmette's test is probably harmless if care be used. Von Pirquet's test is harmless. It is of little value beyond the age of five years.

F. R. B. Atkinson.

Tuberculin diagnosis in children (*'Monatschr. f. Kinderheilk.,'* 1913, XI, *p.* 481).—**N. Stricker's** conclusions are as follows: (1) The tuberculin reactions are for practical purposes specific. From a theoretical standpoint their specificity cannot be proved. Practical experience teaches us that an agreement obtains between the positive reaction and the clinical and pathologico-anatomical observations. (2) Positive reaction in infants is nearly always a proof of active tuberculosis; in older children it is only a proof that a tuberculous infection has occurred. (3) Negative reaction is neither in infants nor older children a proof of the absence of tuberculosis. The cutaneous reaction is frequently absent in spite of existing tuberculosis. The condition of the skin is of importance for the character of von Pirquet's

reaction. The exudative diathesis reacts most markedly. (4) No conclusion can be drawn from the intensity and duration of the tuberculin reaction or from the height of the successful doses regarding the activity or otherwise of the tubercular process. (5) The temperature after the injections should be critically examined. Children may react suddenly from slight causes especially after scarlet fever. (6) In all doubtful cases the repetition of the reaction is essential. (7) The focal reaction is seldom of value. (8) The cutaneous reaction is inferior to the subcutaneous, which is not without danger; the former is harmless. (9) The diagnostic value of the tuberculin reaction is over-estimated. F. R. B. Atkinson.

The curability of tuberculosis of the nervous centres (*'Riv. di clin. Pediat.,'* 1913, xi, *p.* 321).—**G. Fione** has collected eighteen cases by different observers to prove that when cure results in cerebral tuberculosis it is due to peculiar properties of the bacilli themselves and not to its particular seat, nor to an exceptional resistance of the subject, and still less to any therapeutic measure such as repeated lumbar puncture. There exists, in fact, a special variety of tuberculosis of the nervous centres which is curable, which may be called "*atuberculinic*" in order to indicate its principal characteristic, the feeble effect of its diffusible toxins. The author thinks it much more common than is usually believed and that the knowledge of its existence is important, since it can be applied to the interpretation of symptoms of obscure ætiology and pathology.

Vincent Dickinson.

Observations of results from vaccination against tuberculosis (*'Med. Record,'* 1913, lxxxiii, *p.* 1059).—**C. A. Julian** reports on the vaccine described by Dr. von Ruck in the *'Med. Record'* of August 31, 1912. Of 66 cases suffering from tuberculosis, 26·5 showed an average increase in body-weight, 60·0 a maximum, and 4·4 a minimum increase. One hundred and five children with signs of pulmonary tuberculosis were cured after a single dose of the vaccine. F. R. B. Atkinson.

Allotropic iodine in tuberculosis (*'La Pediatria,'* 1913, xxi, *p.* 513).—**E. Modigliano** has had satisfactory results from this preparation, which, it is claimed, destroys Koch's bacillus, and the virulence of the tubercular toxins. Allotropic iodine is a very volatile liquid, of the same colour as tincture of iodine. It is given in doses of from three to five up to ten drops at a time, once or twice daily and sometimes on alternate days, in half a glass of water. The solution must be taken as soon as prepared, otherwise it loses its efficacy, and one or two hours after food. It may also be given in hypodermic injection in the same doses, in sterilised solution of chloride and carbonate of soda 1 per cent. of each, 1 to 2 c.c. for three, five or ten drops of iodine. No further details concerning the nature or preparation of allotropic iodine are given. Vincent Dickinson.

The treatment of pulmonary tuberculosis in the child (*'Arch. de méd. des enf.,'* 1913, xvi, *p.* 289).—**Galliot** treats children in the first or second stage with carbonate of lime and phosphate of lime āā 20 to 30 cgm., chloride of lime 10 to 20 cgm., calcinated magnesia 5 to 10 cgm., arrhenal 1 to 3 cgm.; two to three in a cachet *per diem*. Cod-liver oil is also given.

F. R. B. Atkinson.

Ambulatory treatment by tuberculin in scrofula and tuberculosis of children (*'Arch. f. Kinderheilk.,'* 1913, *Baginsky Festschrift*, 1913, *p.* 789).—**W. Wolff** describes fifteen cases treated by old tuberculin, and recommends an initial dose of $\frac{1}{1000}$ mg. injected once a week and increased to $\frac{1}{100}$ mg.

F. R. B. Atkinson.

Chronic non-tuberculous processes in the lungs in infants and in the earliest years of life (*'Jahrb. f. Kinderheilk.,'* 1913, lxxviii, *p.* 88).—**R. Lederer.**—Chronic inflammatory pulmonary diseases of children in later years and of adults may date back to the age of childhood and be a result not only of measles, pertussis and influenza, but also of ordinary bronchitis and broncho-pneumonia. The chronic process can either occur in the earliest years after an acute pneumonia or develop insidiously under the form of an unrevealed bronchitis, and may extend for weeks, or months, or years. It may remain quiescent for a long time or leave behind sequelæ, such as tracheo-bronchial adenopathy, which may in its turn set up a new inflammatory process in the lungs of which the prognosis is doubtful. The development of induration is unfavourable. The X rays may assist in the diagnosis. The treatment should bear relation to the general condition.

F. R. B. Atkinson.

The normal and adventitious danger periods for pulmonary disease in children (*'Arch. of Ped.,'* 1913, xxx, *p.* 603).—**W. C. Williams** finds that there is a period in any child's development when chest growth is at a minimum compared to total growth, and this is perhaps a danger point for pulmonary disease, in girls between the ages of nine and ten, and boys between twelve and thirteen. An adventitious danger period may occur at any time; in girls this may be at the onset of puberty. He finds there is no normal size for the chest in either male or female at any given age, and also that there appears to be a fairly uniform increase in circumference each year for all the chests of the same age. At a certain age the boys' chests seem to grow faster than the girls' chests and *vice versâ*. There is an inverse relation between chest growth and the growth in length of the body, and this is most apparent at one certain age, which differs with the two sexes.

F. R. B. Atkinson.

Unrecognised bronchitis in infants (*'Le Nourisson,'* 1913, i, *p.* 206).—**P. Londe.**—The condition is frequently not recognised because of the constant absence of signs. Cough is inconstant. Physical signs are slight or absent. Dyspepsia and intestinal troubles are not infrequent. These cases should be treated early, as they are apt to be complicated with emphysema, asthma, or become chronic bronchitics.

F. R. B. Atkinson.

Broncho-tetany, bronchial asthma and asthmatic bronchitis in early life (*'Monatsschr. f. Kinderheilk.,'* 1913, xii, *p.* 261).—**H. Rietschel.**—Broncho-tetany was first applied by Lederer to a cramp-like condition of the bronchial muscles, mostly occurring in children, who show distinct symptoms of the spasmophile diathesis. The disease usually begins with a cough, and quickly or gradually dyspnœa and cyanosis supervene. Atelectasis of the lung may occur if the obstruction be complete. The condition is a very serious one. All six cases of Lederer's died. Treatment consists in attending to the spasmophile diathesis with lime and cod-liver oil.

F. R. B. Atkinson.

Asthma in children (*'Practitioner,'* 1913, xc, *p.* 924).—**E. B. Smith** has seen in the last five years forty cases of asthma in children under twelve years of age, affecting both sexes equally. The hereditary taint was marked. He believes that there is a distinct type of infantile asthma beginning almost from birth, and finds that there are two types met with in children, the former occurring between birth and five years of age (the moist type), and the latter occurring between five years of age and puberty (the dry type). If the paroxysms are frequent and persist, there is a danger of damage to the lungs resulting which will tend to shorten life. If the attacks occur at night only, the author gives potassium iodide, belladonna, and ethereal tincture of lobelia at bedtime regularly, and looks on the iodide as the most valuable of all drugs. He recommends regular administration of the drug for six to eight weeks, and then left off for a fortnight and replaced by a tonic as arsenic, and the iodide then renewed. In an acute attack hot baths act as a sedative, and an injection of 3 to 5 minims of adrenalin 1 in 1000 may be given. Diet, clothing and change of air should receive attention. F. R. B. Atkinson.

Pleurisy in infants (*'La Pediatria,'* 1913, xxi, *p.* 588).—**M. Reano** has examined the autopsies of 756 infants made at the asylum at Turin, of which 78 died of pleurisy. In 48 cases there was a simple deposit of fibrin, in 32 a purulent and in one case a hæmorrhagic fibrinous pleurisy. Fibrinous or purulent pleurisy was found frequently in infants dead of broncho-pneumonia or pneumonia, and was present either as an easily detachable deposit on the visceral, costal or diaphragmatic pleura, or in the form of a true pseudo-membranous deposit covered with thick pus which glued together the pleural layers ; sometimes there was also fluid pus in the pleural cavity. The clinical symptoms were little marked and shown more by light percussion, exploratory puncture and radioscopy than by the signs commonly found in older children. The pathogenic agent was found to be the pneumococcus or the streptococcus or both associated with staphylococci. The pneumococcal variety was the most frequent. With all these forms, pericarditis, peritonitis, meningitis and arthritis of the same origin might be found associated. Vincent Dickinson.

The influence of artificial pneumothorax on the respiratory mechanism in children (*'Monatsschr. f. Kinderheilk.,'* 1913, xi, *p.* 585).—**R. P. van de Kastlele** finds on the average the breathing is more frequent, the depth of breathing less, but the absolute quantity of air breathed is greater than in children without pneumothorax. The increase in frequency and decrease of the depth of the breath seems to be a compensatory appearance. The quantity of nitrogen injected into the pleural cavity should be carefully dosed. F. R. B. Atkinson.

Chronic pneumococcal infection of the lungs in children (*'Brit. Med. Journ.,'* 1913, i, *p.* 1156).—**P. L. Sutherland** and **A. A. Jubb** point out that it is the experience of all clinical observers to see children in whom the pulmonary signs suggest the presence of phthisis. These cases present the following features: (1) They are often sequels, immediate or remote, of measles or whooping-cough ; (2) cough, sputum and emaciation are variable in amount or degree; (3) tubercle bacilli are not found in the sputum. These cases are not phthisical, but are chronic infections due to some other cause. They are really chronic pneumococcal infections of the lungs, inducing

bronchial and peri-bronchial lesions. These pneumococcal cases in children form a large percentage of the cases cured or improved in open-air schools, and tend to be chronic and non-fatal, though there is always the liability to tuberculous infection. J. Allan.

Fibrosis of the lung in bronchiectasis in children (*'Clin. Journ.,'* 1913, xlii, *p.* 363).—**M. Fletcher.**—Bronchiectasis in infancy and early childhood may be either acute or chronic. The acute form is most frequent in infants in the course of acute bronchitis or broncho-pneumonia, and may be unsuspected during life. It may often be recognised by coarse *râles* over the bases of the lungs posteriorly persisting for some length of time after the acute stage has passed off. The chronic type is frequent after pertussis. The cough and expectoration may last for a year or even longer. If a child coughs up sputum, bronchiectasis should be expected. Fibrosis of the lung with bronchiectasis in children may be localised or diffuse, but it is less common. Inflammatory conditions are the most important factors in producing fibrosis. Fibrosis affects the lower lobe of the left much more commonly than that of the right lung. The expectoration is normally muco-purulent and greenish in colour. The heart and mediastinum are often displaced to the affected side. Prognosis: If there is fibrosis without bronchiectasis, the prognosis is better than if bronchiectasis be present. The acute form is not so dangerous as the chronic. Hæmoptysis is usually slight, but may be fatal. Treatment: This consists of improving the general health, good food and climate, and removal of the sputum. Inhalation of creosote is valuable. F. R. B. Atkinson.

Malignant tumour of the mediastinum in a child aged 13 years (*'Arch. de méd. des enf.,'* 1913, xvi, *p.* 599).—**J. Hallé** and **H. Salin** describe this case of tumour invading the left lung. Death occurred in three months. There were no marked signs of mediastinal tumour during life.
F. R. B. Atkinson.

Thymic tracheo-stenosis and thymus death (*'Journ. Amer. Med. Assoc.,'* 1913, lx, *p.* 571).—**A. Crotti** reports two additional cases of death occurring as the result of an enlarged thymus, one of which was an infant, who succumbed to an attack of dyspnœa a few hours after birth. The thymus was enormous, and had displaced the heart, the pulmonary vein, aorta and superior vena cava. The thoracic portion of the trachea was also compressed and flattened. In children a latent thymus hyperplasia may exist for a variable time, and sometimes sudden death may be the first indication of its presence. Certain cases of asphyxia of the newborn are explained only by thymus hyperplasia. Among the chief symptoms of the condition dyspnœa is the most striking. Respiration may be merely laboured, or there may be intense choking spells. Dyspnœa may be constant or intermittent, with or without acute paroxysms. Between attacks the breathing may be normal. There may be a constant and persistent inspiratory stridor, and in extreme dyspnœa an expiratory stridor also, which is, however, less marked. Attacks of dyspnœa may occur without cause or when the child cries from pain or hunger, and are especially marked during sleep, being aggravated by hyperextension of the head and the dorsal decubitus. The paroxysms are extremely alarming, but tracheotomy is useless unless a long tube reaching to the bifurcation of the trachea is available. The attacks may last from a few minutes to a few days, and

either cease entirely or death ensues. This dyspnœic condition begins as a rule in the first weeks or months and diminishes during the second year of life, being seldom found after that period, possibly owing to the normal diminution in size of the gland. An enlarged thymus causes compression of the trachea and at times displacement, especially to the right. The points of pressure on the trachea are at the superior opening of the thorax, between the manubrium sterni and the first and second dorsal vertebræ, and a little lower down between the left carotid and the innominate arteries, the former being the commoner in children and the latter in adults. Compression is not present in all cases. When absent, dyspnœa may possibly be caused by irritation or stretching of the inferior laryngeal nerves and a consequent spasmodic contraction of the constrictors of the glottis. In these cases tracheotomy would be of service. In other cases, again, direct pressure on the base of the heart may be the cause of death. The stridor caused by an enlarged thymus must not be confounded with (1) that due to malformation of the vestibulum of the larynx, which is entirely inspiratory and is not found on expiration, except in rare cases; in this condition the stridor and dyspnœa disappear on intubating the larynx; (2) that caused by enlarged peribronchial glands, which is expiratory in character, and occurs at a somewhat later age; (3) the laboured breathing due to adenoids; (4) the obstructed respiration resulting from a retro-pharyngeal abscess; or (5) an acute laryngitis. Owing to the pressure which it exerts upon the heart and great vessels an enlarged thymus may further give rise to distension of the veins in the neck, puffiness of the supra-clavicular fossæ, cyanosis of the face, and bulging of the anterior fontanelle. The administration of an anæsthetic in these cases is attended by considerable danger. Death may occur early in the process of anæsthesia or even after the patient has recovered from the anæsthetic. During anæsthesia the patient, as a rule, shows a tremor, which resembles shivering from cold, respiration is accelerated and superficial, the pulse is weak, the face white, and the pupils are dilated. Enlargement of the thymus is found associated with hyperplasia of the lymphatic glands and other lymphoid tissues (*status lymphaticus*), simple goitre, hyper-thyroidism and myxœdema, acromegaly, and tetany. T. R. Whipham.

Surgery.

On the importance of marine hospitals in the treatment of surgical tuberculosis (*'Arch. de méd. des enf.,'* 1912, xv, *p.* 561).—**J. Calvé** insists that surgical tuberculosis is a general and not a local disease. Thus Pizzini has shown that 42 per cent. of apparently healthy glands have been proved to be tuberculous by inoculation; at any time the bacilli may be carried into the blood-stream and settle on joints or other glands. Again, surgical tuberculosis constantly recurs in the same subject. A general treatment is therefore required. The scrofulous are behindhand as regards nutrition, and have slow metabolic processes and a diminished mineral content of the tissues. A marine climate, by its more regular temperature, its stimulating and oxydising qualities offers many advantages. Joint and gland tuberculosis require a different climate from the pulmonary forms; a bare, unprotected sea-shore and exposed to all the winds that blow is the best. The actinic solar rays are more powerful at the seaside than elsewhere; hence at Berck insolation galleries are provided. The results of

marine treatment are most advantageous in glandular cases, where immediate and rapid retrogression is the rule as regards the larger part of the glandular mass, followed by slower action and complete cure in three years. Great stress is laid upon exposing tubercular wounds and fistulæ to the open air, whereby osseous and joint suppurations are strikingly lessened and their fœtor equally diminished. Of 22 cases of early hip-joint disease, 1 died of meningitis, 10 were absolutely cured, 6 had a pseudarthrosis with shortening from 1 to 3 cm., and 5 recovered with ankylosis. Of 28 cases complicated by fistulæ 6 died shortly after admission and 1 after disarticulation, 10 were subjected to drainage by operative measures, 8 being cured, 1 improved and 1 died ; 2 others were curetted and cured. The remaining 10 were free from fever, and 8 of these were cured after a few weeks, 1 was improved and 1 is still stationary. Eight early cases of Pott's disease were treated for three years without interruption ; 7 were cured without or with very slight degree of hump-back, without malformation of the thorax, and without any arresting effect on general bodily development ; 1 died. Thirty cases with Pott's disease and abscesses were treated by puncture and injections ; 27 were cured, 2 died, and 1 developed a fistula. Another 30 cases had fistulæ on admission ; of these 20 are dead, 6 are stationary, and only 4 were cured. In France there are 2500 beds for surgical tuberculosis, and 1494 of these are devoted to recumbent cases. This compares very favourably with all other countries, where the number of beds and duration of treatment are inadequate. The great bar to success is ignorance of surgical tuberculosis both on the part of the profession and the general public, so that little more than 10 per cent. are admitted to hospitals in the early and curable stage. The great need at present in France is for technical schools attached to the sanatorium where the children who are deformed can learn a trade. The Treloar Cripple Home and College and the Massachusetts Hospital School are quoted with approbation.

CHRISTOPHER ROLLESTON.

Tuberculosis of lower end of femur (*'Brit. Med. Journ.,'* 1913, I, *p.* 221).—**Wheeler** exhibited at the Royal Academy of Medicine in Ireland three cases of tuberculosis of the lower end of the femur in children illustrating recent pathological and anatomical work on this subject, and spoke on the pathology of tuberculosis in bone. In each of the three cases the disease occurred at the site of election, the metaphysis, and in each case the femur was divided with a Gigli's saw above the diseased area, and wrenched from the epiphysis. New bone was rapidly formed with excellent results. X-ray photographs showed the accurate and complete manner in which the new bone replaced that which was removed. The first case was operated upon in 1909, before any work on the subject had been published. The reason the metaphysis and not the epiphysis or diaphysis was the site of election for tuberculosis in bone was anatomical. The infection was hæmogenic, and could be traced in most instances to the milk supply. The nearer the metaphysis was to the joint the more readily the joint became affected, as was seen in the case of the elbow and hip. In the author's opinion, scraping, curettage and drainage were unscientific methods only to be employed when there was some special reason for not performing the ideal radical operation.

J. ALLAN.

Tuberculosis acquired through ritual circumcision (*'Journ. Amer. Med. Assoc.,'* 1913, LXI, *p.* 99).—**L. E. Holt** reports the case of an infant in

whose family there was no evidence of syphilis or tuberculosis. On the eighth day the operation of ritual circumcision was performed, the blood being sucked in the usual manner. The wound did not heal properly, and at the end of a week suppuration was present, and ulceration followed, beginning in the prepuce. Two weeks after the operation the inguinal glands began to swell, but did not suppurate. Subsequently the child's general health began to fail and there was slight fever and cough. There was discharge from one ear and from the nose, and a scanty maculo-vesicular eruption made its appearance on the trunk and extremities. *Râles* were present over both lungs, but there were no signs of consolidation. The abdomen was distended; the spleen was much enlarged, and the liver-edge was three inches below the costal margin. The penis showed complete destruction of the skin by ulceration up to the abdominal wall and to the base of the scrotum. It was one granulating surface from which pus was freely discharging. The tuberculin skin-test gave a strongly positive reaction. Tubercle bacilli were found in the discharge from the penis, in the sputum, and in scrapings from the cutaneous lesions. Death occurred from exhaustion at the age of three and a half months. At the necropsy a few miliary tubercles were found on the meninges. The lungs were studded with tubercles and small tuberculous nodules. Tubercles were also present in the heart-wall, on the peritoneum and in the spleen, liver, kidneys and pancreas. Tuberculous ulcers were present in the intestines. The lymphatic glands were enlarged and caseous, and the iliac artery contained a cheesy lymph-node in its adventitia. The bladder was likewise affected, and both middle ears contained pus. The man who had performed the operation was a pale, thin, almost emaciated individual, who looked decidedly tuberculous, although no physical signs of disease in his lungs could be detected. In his sputum two acid-fast bacilli were found which looked like tubercle bacilli. An interesting summary of the literature is appended.

T. R. Whipham.

Tuberculosis of the prepuce (*'La Med. de los Niños,'* 1913, xiv, *p.* 75). —**Hernández** describes in detail the macroscopic and microscopic lesions of a tuberculous ulcer of the prepuce in a child of seven months (or seven years as stated elsewhere in the article). It was a case of primary tuberculosis of the prepuce, and after circumcision the child was perfectly well. The ulcer was situated at the free border of the prepuce and was 10 by 4 mm. in size. Histological examination proved the nature of the ulcer.

M. D. Eder.

Extreme dyspnœa due to rapid hypertrophy of the thyroid; hemi-thyroidectomy; recovery (*'Brit. Med. Journ.,'* 1912, ii, *p.* 973). —**G. R. Girdlestone** received an urgent call to a boy, aged 13 years, apparently dying from tracheal obstruction. There was no obvious thyroid enlargement, but a firm fulness in the lower part of the neck. There was a history of increasing dyspnœa for a fortnight or more. On cutting down over the trachea the right lobe of the thyroid was found to be very large, and its lower pole, passing round forwards between sternum and trachea, compressed the latter. This was shelled out and the right lobe was removed. There was immediate relief of symptoms, and the boy, when seen six months later, was absolutely well. There were no symptoms of hyper-thyroidism or hypo-thyroidism and no obvious asymmetry of the neck. The microscope demonstrated the growth to be simple hypertrophy.

J. Allan.

Reviews.

Diphtherie und Diphtheritischer Croup. Von Dr. Adolf Baginsky, A. o. Professor der Kinderheilkunde an der Universität Berlin, Geheimer Med-Rat, Director des Städt. Kaiser und Kaiserin Friedrich-Kinderkrankenhauses in Berlin. Zweite Auflage. Wien und Leipzig: Alfred Hölder, 1913. Price M. 13.

This volume bears eloquent testimony to Prof. Baginsky's extensive experience of diphtheria, both before and after the introduction of the anti-toxin treatment, and his wide knowledge of the literature, combined with a sound judgment and skill in clinical portraiture.

The present edition has been well brought up-to-date. Recent work on the heart and suprarenals in diphtheria, anaphylaxis, and the importance of diphtheria carriers, all receive due consideration. The book is well printed and illustrated, and is in every way worthy of the high reputation of the writer. J. D. R.

Über den Hospitalismus der Säuglinge: Eine Klinische Studie. By Dr. Ludwig Meyer. From the Orphanage of the City of Berlin. With 31 Curves in the Text. Pp. 78. Berlin: S. Karger, 1913. Price M. 4.

Under the title "Über den Hospitalismus der Säuglinge" Dr. Ludwig F. Meyer, Prof. Finkelstein's Chief Assistant in the Berlin City Orphanage, discusses a problem which has escaped solution for over one hundred years—the problem why it should be well-nigh impossible to keep infants in health and even in life when they are collected within a single institution.

The book is divided into three parts. The first part deals historically with the whole question. Until the most recent years the figures from the most famous institutions unite in showing a huge and lamentable mortality. Parrot, Henoch, and other famous physicians were forced to estimate the mortality of infants under six months of age at about 80 per cent.

Into the Berlin Charité between 1874 and 1884, 4109 such children were taken, of whom no less than 3209, about 78 per cent., died. The effect of even a comparatively short stay within the walls of an institution is well illustrated by some figures quoted from the statistics of the Orphanage of the City of Berlin. From 1876 to 1899, at a time when all the infants were boarded out and only four cots were available for their reception from time to time, the mortality under one year averaged about 30 per cent. In 1899 a ward with twenty-four cots was opened, and it became possible for the first time to arrange for a longer stay. Immediately the mortality rose. In 1899, 42·5 per cent. died; in 1900, 47·8 per cent. In one year in twenty-four cots no less than 345 infants died. Only with the building of the new orphanage and the reorganisation of the nursing service did the mortality decline.

In the second part the various factors concerned in the mortality are discussed, such as accidental infection of the air-passages, alimentary infection, unsuitable diet, want of breast-milk, and so forth. Especially interesting is the discussion as to the part played by the absence in institutions of all psychical stimulation of the infant. Instead of the constant stimulus of the mother, who at its slightest cry is beside it, tempting it to food or to play, dandling it in her arms, etc., the infant in the institution is

apt to lie unnoticed and unnoticing, in the same position, with little to stimulate or arouse it.

In the third part the author's personal observations and experiments bearing upon the problem are recorded.

The book is written in the author's usual fascinating style and is copiously illustrated with charts and tables. H. C. C.

Coprostasis: Its Causes, Prevention and Treatment. By James Sawyer, Kt., M.D.Lond., F.R.C.P. Pp. 74. Birmingham: Cornish Bros., 1912. Price 2s. 6d. net.

The pages consist of six chapters of the author's 'Contributions to Practical Medicine,' as they appear in the last edition of that work. It is in the first of these essays that the writer's experience is shown to fullest advantage. The second paper is so closely similar to the first, various passages being practically repeated verbatim, that it hardly seems necessary. In the other chapters smaller details of treatment are dealt with.

The author's style is for the most part smooth and dignified. On occasion it verges towards the pompous; rarely it is infelicitous, as in the coining of the word "hæmorrhoidaloid," which we have done nothing to deserve. We hardly know how to classify the phrase, "many hearts throb to the fetich of a punctual faex." R. M.

Correspondence.

To the Editor of The British Journal of Children's Diseases.

Dear Sir,—As a subscriber and reader of the British Journal of Children's Diseases, I was rather surprised by the views of two of your contributors to the September issue. Dr. Marsh, in writing on colon pyelitis, depreciates the use of what I am convinced are the two most valuable remedies in the treatment of pyelitis—urotropin and vaccines. It is unfortunate to give so much prominence to such views. I am sending you under separate cover a reprint giving some of my experiences, which may show you why I feel so strongly about the unfortunate attitude of Dr. Marsh's article.

I wish also to criticise the following article on "Fatal Cases of Eczema," by Dr. Peverell S. Hichens. So far as I can find out, Dr. Hichens' treatment of these cases was local, while, to my mind, the only logical and curative treatment is internal, which treatment may be aided by local applications.

The eczema is simply an external evidence of some irritation which usually has its seat in the intestinal tract, and, unless the cause is attacked by a proper diet, it would seem not unlikely that a fatal issue might result. His experience has been most unfortunate, and might be accounted for by neglect to attack the cause.

Trusting that you will accept this criticism in the friendly manner in which it is intended,

I remain,

Very sincerely,

Rowland G. Freeman.

211, West 57th Street,
New York,
October the 17*th*, 1913.

[An abstract of Dr. Freeman's paper, which is entitled "The Diagnosis and Treatment of Pyelitis in Infancy" ('Amer. Journ. Dis. Child.,' 1913, vi, pp. 117–121), will appear in a subsequent issue.—Ed.]

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